

A-4

BC

Influence of lactic acid on haemolysis. J. SLADKX, I. A. PARVETSEV, and B. SOKOLOV (J. Pharm. Exp. Ther., 1951, 43, 245-250).--The haemolysis of red blood-cells of rabbits in hypotonic NaCl solution is reduced by small concentrations of Na lactate. Thus with 0.4% aq. NaCl the degree of haemolysis was reduced when the concentration of Na lactate was of the order of 0.1, whilst with lower concentrations of NaCl larger quantities of Na lactate were required. At pH 7.0 Na lactate alone inhibits haemolysis when present in concentrations greater than about 0.5%, whilst at pH 5.0 about 1% Na lactate is required, and haemolysis when it occurs is accompanied by the decomp. of the haemoglobin. The effect of Na lactate cannot be accounted for solely by the changes of osmotic pressure involved. W. D. KERMACK.

ADD. 3L6 METALLOGICAL LITERATURE CLASSIFICATION

PARFENT'YEV, G.

Improving the economic level of the work of educational institutions.
Prof.-tekh.obr. 21 no.8:5-6 Ag '64. (MIRA 17:9)

1. Nachal'nik otdela uchilishch Leningradskogo oblastnogo upravleniya
professional'no-tekhnicheskogo obrazovaniya.

PARFENT'YEV, G.

PARFENT'YEV, G.

Conference of farm mechanization school workers. Prof.-tekh. obr.
15 no.2:20 P '58. (MIRA 11:2)

1. Nachal'nik oddela uchilishch i shkol Leningradskogo oblastnogo
upravleniya trudovykh rezervov.
(Farm mechanization--Study and teaching)

Parfen'yeV, G.A.

SUKHOPAROV, Aleksandr Aleksandrovich; USTINOV, Yuriy Timofeyevich;
KOMRATENKO, N.G., inzh., retsenzent; PARFEN'T'YEV, G.A., inzh.,
retsenzent; MERKULOV, Ye.F., inzh., red.; VASIL'YEVA, V.P., red.
izd-va; SPERANSKAYA, O.V., tekhn. red.

[Assembling industrial equipment] Montazh promyshlennogo oborudovania.
Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 316 p.
(Machinery—Erecting work) (MIRA 11:7)

PAPERNYIY, I.F.; ...

Mechanized equipment for the processing of documents. Date: 9 no. 10/1960.

1. Metallurgicheskoy ...

PARFENT'YEV, I.F.

133-58-3-3/29

AUTHORS: Tylkin, M.A., Parfent'yev, I.F. and Sivak, V.I.,
Engineers

TITLE: An Increase in the Service Life of Blast Furnace Charging
Equipment (Udlineniye sluzhby zasypnykh apparatov domnennykh
pechey)

PERIODICAL: Stal', 1958, Nr 3, pp 207 - 208 (USSR)

ABSTRACT: Methods of hard facing large bells for blast furnace
operating on high top pressure are briefly discussed. There
are 2 figures.

AVAILABLE: Library of Congress
Card 1/1

18.5000

75574

SOV/130-59-10-6/20

AUTHORS: Tylkin, M. A. (Candidate of Technical Sciences), Sivak, V. I., Parfent'yev, I. E., Kropp, M. A. (Engineers)

TITLE: New Design of Hot Blast Valve

PERIODICAL: Metallurg, 1959, . Nr 10, pp 10-11 (USSR)

ABSTRACT: Hot blast valves with cast bronze rings and bronze gates are used at Plant imeni Dzerzhinskiy (zavod imeni Dzerzhinskogo). The welded gate consists of a basic furodit (iron alloy with approximately 27 to 29% Cr and 5% Al) ring. Better results were achieved with chamotte rings made of wet pressed segments. The segments are fired and assembled in a ring-like manner in chamotte binding medium. The ring is ground along the periphery and side faces. After removal of the surface layer at the joint, no pores are observed. The segments are enclosed by a regular St3-steel tire as shown in Fig. 3.

Card 1/3

New Design of Hot Blast Valve

75574

SOV/130-59-10-6/20

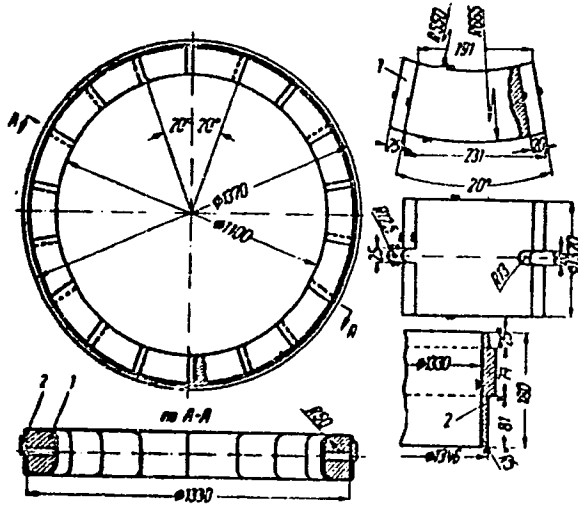


Fig. 3. Chamotte Ring:
(1) segment: (2) tire.

Card 2/3

New Design of Hot Blast Valve

75574

SOV/130-59-10-6/20

Loosening of the ring - tire contact is not detrimental since it widens the air gap between ring and tire, decreasing heat transmission from the ring to the tire. Such rings are installed in a blast furnace of the plant. There are 3 figures.

ASSOCIATION: Plant imeni Dzerzhinskiy (Zavod imeni Dzerzhinskogo)

Card 3/3

25(1)

SOV/135-59-5-10/21

AUTHORS: Tytkin, M.A., Candidate of Technical Sciences; Sivak, V.M., Engineer; Parfent'yev, I.F., Engineer; Kropp, M.A., Engineer

TITLE: The Restoration of Crane Wheels by Building-Up

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 5, pp 25-27 (USSR)

ABSTRACT: To restore worn crane wheels, the Dneprovskiy metallurgicheskiy zavod im. Dzerzhinskogo (Dneprovskiy Metallurgical Plant imeni Dzerzhinskiy) has planned and put into operation a special unit for automatically building up under flux, and developed a technological process for restoring and strengthening crane wheels of up to 1200 mm diameter. It consists of a machine for fastening and rotating the crane wheel, an A384 welding head designed by the Institut elektrosvariki im. Ye.O. Patona AN USSR (Institute of Electric Welding imeni Ye.O. Paton of the AS UkrSSR), mechanisms for the longitudinal feed and raising of the welding head, a device for screening and feeding the flux into the hopper and an aspirator. The unit is provided with a girder crane, and its main layout is described and illustrated in Figure 1. It is fed by a/c from two STN-500 welding transformers connected in parallel. Figure 2 shows

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SOV/135-59-5-10/2:

The Restoration of Crane Wheels by Building-Up

the wheel being welded on the unit. The used flux and waste (slack) pass into a special device where they are filtered and returned to the head hopper. This process is described and illustrated in Figure 3. The building-up is carried out by an electrode wire made of St. 6 steel of 5 mm diameter (for large or badly-worn wheels) or 30KhGSA steel of 3.5 mm diameter (for wheels less than 700 mm in diameter in which the height of the built-up layer is less than 6 mm). Operational experience with the unit at the plant has shown that the following procedure must be observed: 1) when the electrode made of 5 mm St.6 steel is used, the speed of the feed of the electrode wire is taken as equal to 43-49 meters per hour at a peripheral speed of the article of 32-38 meters per hour; the current being 650-700 amps and 28-36 volts. 2) When an electrode wire made of 3.5 mm 30KhGSA steel is used, its feed speed is taken as equal to 56-64 meters per hour at a peripheral speed of the article of 40-48 meters per hour, the current being 450-500 amps and 28-36 volts. Details of the chemical composition of the welded wheels are

Card 2/3

COV/135-59-5-10/21

The Restoration of Crane Wheels by Building-Up

then given, to show that they can be subjected to thermal treatment - sorbitization. The plant imeni Dzerzhinskiy has devised a special process for doing this. It consists of heating the wheel to 840°, plunging it into a hardening bath, tempering it and boring the axle hole. There are 2 diagrams and 1 photo.

ASSOCIATION: Dneprovskiy metallurgicheskiy zavod im. Dzerzhinskogo
(Dneprovskiy Metallurgical Plant imeni Dzerzhinskiy)

Card 3/3

18(5)

SOV/125-59-9-12/16

AUTHOR: Tylkin, M.A., Candidate of Technical Sciences, and
Sivak V.I., Parfent'ev, I.F., and Kropp, M.A., Engineers

TITLE: Automatic Surfacing on Vertical Mill of Blast Furnace
Charger Big Cone

PERIODICAL: Avtomaticheskaya svarka, 1959, Nr 9, pp 88-93 (USSR)

ABSTRACT: Experience of many a metallurgical plant has shown
that the efficiency of blast furnaces depends to a
large degree on the operation of the charger. It has
been on many occasions noted that at the place where
the big cone is connected to the furnace head, blowing-
off of gases begins to appear after a few months of
work; as a result, the cone goes prematurely out of
service. In order to prolong its life, it was recommen-
ded to reinforce its working surface by hard steel al-
loys. In Fig 1, a big cone surfaced with alloy Sormayt
Nr 1, 140 mm in the width and 2.5 mm deep, is shown;
this cone was used in the course of a year on a blast

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NOV/125-59-9-12/16

Automatic Surfacing on Vertical Mill of Blast Furnace Charger Fig
Cone

furnace at the Dneprovskiy Metallurgical Works, working under an increased gas pressure of 0.8 atm. The institute of Electric Welding imeni Ye.O.Faton has worked out the method of automatic surfacing of the big cone by using PP-Kh10V14 and PP-Kh12V1F electrode wire. The Magnitogorsk Metallurgical Combine has, in its turn, constructed for this purpose a vertical mill (Fig 4). The process of surfacing is shown in Fig 5. The current intensity is 400-600 amp. depending on the zone of the cone to be surfaced; arc tension is 30-36 volts. Before the surfacing process begins, the cone is pre-heated to 400°C; to this end, a special design burner (Fig 6) working on coke gas has been constructed. There are 1 diagram and 5 photographs.

ASSOCIATION: Dneprovskiy metallurgicheskii zavod imeni Dzerzhinskogo
Card 2/3 go (Dneprovskiy Metallurgical Works imeni Dzerzhinskii)

PARFENT'YEV, I.F.

TYLKIN, M.A., inzhener; SIVAK, V.I., inzhener; PARFENT'YEV, I.F., inzhener;
KROPP, M.A., inzhener.

Increasing the durability of crane wheels. Metallurg 2 no.9: 34-36
S '57. (MLRA 10:9)

1. Zavod imeni Dzerzhinskogo.
(Cranes, derricks, etc.) (Steel--Hardening)

PARFENT'YEV, I.F.

130-9-17/21

AUTHORS: Tylkin, M.A., Sivak, V.I., Parfent'yev, I.F. and Kropp, M.A.
(Engineers)

TITLE: Increasing the Durability of Crane Wheels (Povysheniye stoykosti kranovykh koles)

PERIODICAL: Metallurg, 1957, Nr 9, pp.34-36 (USSR)

ABSTRACT: Short service life of crane wheels is due not only to design factors but also to the materials and methods of fabrication and heat treatment. The authors describe methods used at the major Soviet crane-wheel producing works, analyse causes of failure and deal with equipment used for surface hardening. They conclude with an account of the installation they developed with the help of K.F. Starodubov for the sorbitisation of crane wheels at the imeni Dzerzhinskiy works. Type 50Г2 steel (C 0.44-0.55%, Mn 1.4-1.8%, Si 0.17-0.30%, P \leq 0.040, S \leq 0.045) is used for the wheels which are cast and subjected to heat and mechanical treatment. The authors recommend the centralised manufacture of all-rolled crane wheels of standardised dimensions. There are 4 figures.

ASSOCIATION: Imeni Dzerzhinskiy Works (Zavod im.Dzerzhinskogo)

AVAILABLE: Library of Congress.

Card 1/1

PARFENT'EV, L. N.

"Sur la reaction du bromure de triphenylebenzylphosphonium avec le sodium metallique."
Parfent'ev, L. N.; Sansourine, A. A. (p. 865)

SO: Journal of General Chemistry
(Zhurnal Obshchei Khimii) 1939, Volume 9, #10

ca

EXTRACTION AND PROPERTIES

Extraction of copper with nascent ammonium hydroxide
 L. N. Parfen'ev and E. M. Andriyanova *Izvestiya Gosnauka, Ussr. 6, 65 70(1968)*. Lab. expts show that the yield of NH_4OH from $Ca(OH)_2$ and NH_4Cl is increased by the presence of $Mg(OH)_2$. A max yield (85.6%) was obtained from $Mg(OH)_2$, 10% and $Ca(OH)_2$, 80% by 2 hrs. stirring; after 2 hrs. the concn of the NH_4OH soln. decreased because the rate of evapn of NH_3 became greater than the rate of formation. Attempts to prevent this evapn. by means of Hg. oil, gaso line and liquid paraffin were unsuccessful. Lab. expts showed that Cu can be extd. from Naukat copper sands, but a considerably greater concn. of NH_4OH is required than in the extn. with NH_4OH soln. already formed.

W. R. Henn

AS 3-31A METALLURGICAL LITERATURE CLASSIFICATION

PROCEDURES AND PROPERTIES INDEX

10

ca

The reaction between triphenylbenzylphosphonium bromide and metallic sodium. L. N. Pafent'ev and A. A. Shamshurin. *J. Gen. Chem.* (U. S. S. R.) 9, 865-7 (1939).--Dry $\text{Ph}(\text{PhCH}_2)_3\text{PBr}$ (I), obtained in almost quant. yield from Ph_3P and PhCH_2Br in toluene, was warmed (8.19 g.) with 0.43 g. Na powder in 250 ml. ether for 2 days while stirring, after which time most air was introduced into the reaction mixt. for 4 hrs. while stirring. The ether soln. was sucked off, the residue was washed 3 times with fresh ether and then filtered off. The solid mixt. was treated with alc. whereby 1.920 g. I was extd. The residue consisted of 0.6721 g. NaBr . The ether soln. contained 2.023 g. Ph_3PO , m. 150-1°, and toluene. These results indicate that Ph_3PCHPh is the primary reaction product from I and Na. G. B.

METALLURGICAL LITERATURE CLASSIFICATION

67

PROCESSES AND PROPERTIES INDEX

10

C9

The mechanism of reactions between the chlorides of sulfur and ethyl alcohol. I. N. Parfent'ev and A. N. Temp. *Trudy Leninghogo Gosudarst. Univ., Khimicheskii Fakul'tet*, 15, 1 (1959).—Owing to the different properties of S chlorides the reaction of EtOH with them is a complex process which proceeds simultaneously in different directions. On the basis of the performed expts. and observations it was detd. that the reaction between SCl₂ and EtOH is represented by 2SCl₂ + 2EtOH → S + 2EtCl + 2HCl + S₂. The formation of the observed OS(OEt), takes place from SCl₂, which is either present or is formed from heating SCl₂, according to (1) SCl₂ + EtOH → SOCl₂ + EtCl + HCl, and (2) SOCl₂ + 2EtOH → OS(OEt) + 2HCl. At low temps. this reaction does not proceed to completion, but stops at the intermediate stage according to SOCl₂ + EtOH → HCl + EtOSCl. The effect of high temps. is manifested in facilitating the completion of the reaction. This increases the yield of EtOS₂. Four references.

W. R. Henn

METALLURGICAL LITERATURE CLASSIFICATION

PROCESSED AND PRESERVED BY THE NATIONAL ARCHIVES

10

CA

The action of bromine on sodium ethylate. I. N. Parfenyev and M. M. Abramov. *Trody i Sposoby Gosudarst. Ucheb. Zhurnal Rabot. Khim.* 15, 17 (1943) 30, 4725. - Na (12 g.) was prepd. by the dry method of Arbuzov in a round-bottomed flask. The flask was connected with a reflux condenser. 10 g. of it was added through a drop funnel with vigorous shaking in dry ether (200 cc.), the flask was heated on a water bath and the contents left standing for 12 hrs. The liquid was decanted from the pptd. NaBr which was treated 3 times with ether. The ether was distd. off from the soln. contg. the reaction products. The remaining liquid (11 g.) was distd. under ordinary conditions. The main portion was collected under 740 mm. at 60-70-72°C. After a 1-hr. fractional distn. 0.7 g. of the pure product was obtained. It is a liquid, bp. 72-73°C., with characteristic odor of AcOEt, is miscible with alc. and ether in all proportions, $d_4^{20} = 0.903$ and contains C 53.26 and H 9.07%. Emulsification with NaOH produced a salt which decompd. from dil. H₂SO₄ with the evolution of a strong odor of AcOH. Three references.

W. R. Hunt

AD-514 METALLURGICAL LITERATURE CLASSIFICATION

AD-514 METALLURGICAL LITERATURE CLASSIFICATION

AD-514 METALLURGICAL LITERATURE CLASSIFICATION

Ch
 Esters of pyrocarbonic acid. Butyl pyrocarbonate.
 L. N. Farkhatov and A. A. Shamshurin. *Trudy Uzbekskogo Gosudarst. Univ., Sbornik Rabot Khim.* 15, 67-74 (1959).—The object of the paper was to verify and to develop further the method of Boehm and Mehta (C. A. 32, 9043) for the prepn. of pyrocarbonic esters with other radicals and to extend their use as carbonylating agents for other compts. By treating ClCO_2Bu in the presence of emetine with a 10% KOH soln. P. and S. obtained and identified a new Bu ester of pyrocarbonic acid, $(\text{BuO}_2\text{C})_2\text{O}$, b. 115-16°, d. 0.9817, and tried it out as a carbonylating agent in regard to amines and phenols. In this manner P. and S. prepd. Bu β -ethoxyphenylcarbamate (4-carbobutoxyethylphenylurethan), $\beta\text{-EtOC}_6\text{H}_4\text{NHC(O)Bu}$, colorless needles, m. 234-5° (slight decomp.); $\alpha\text{-EtO}$ isomer, long colorless needles, m. 204.5-205°, sol. in CHCl_3 and acetone, practically insol. in ArOEt and CCl_4 ; Bu phenylhydrazinocarboxylate (carbobutoxyphenylhydrazine), $\text{Ph(NH)}_2\text{CO}_2\text{Bu}$, pearly scales, m. 224-5°, insol. in CCl_4 , CHCl_3 and petr. ether, sol. in acetone; Et ester (carbobutoxyphenylhydrazine), m. 81° (nearly quant. yield); Et β -ethoxyphenylcarbamate (4-carbobutoxyethylphenylurethan), $\beta\text{-EtOC}_6\text{H}_4\text{NHC(O)Et}$, snow-white needles, m. 92.5°, caused no depression of

m. p. when mixed with a prepn. obtained by treating β -phenetidine with ClCO_2Et ; 1-naphthylurethan, $\text{C}_{10}\text{H}_7\text{NHCO}_2\text{Et}$, needles, m. 79-80° (nearly quant. yield); 2-naphthylurethan, needles, m. 71-2°; Et 1-naphthyl carbonate, plates, m. 32°. The general equation for all these reactions of carbonylation with pyrocarbonic esters is $\text{RNH}_2 + (\text{ROCO})_2\text{O} \rightarrow \text{RNHCO}_2\text{OR} + \text{ROH} \rightarrow \text{RNHCO}_2\text{R} + \text{CO}_2$. An excellent yield was obtained in the prepn. of quinine Et carbonate (equinine), m. 94-5°, according to the equation $\text{C}_{20}\text{H}_{21}\text{N}_3\text{O(OH)} + (\text{EtOCO})_2\text{O} \rightarrow \text{C}_{20}\text{H}_{21}\text{N}_3\text{O(OCOEt)} + \text{EtOH} + \text{CO}_2$. $\text{O(CO}_2\text{Et)}_2$ (2 g.) reacted with SOCl_2 (2 g.) in a 50-ml. flask equipped with a reflux condenser for 1 hr. in a water bath according to the reaction $(\text{EtOCO})_2\text{O} + \text{SOCl}_2 \rightarrow 2\text{EtOCCOCl} + \text{SO}_2$. The reflux condenser was equipped with a CaCl_2 tube to prevent any access of moisture into the reaction flask. After all SO_2 was evolved the residue was distd. from a small Würtz flask under atm. pressure. The main fraction (1.9 g.) b. 91-9° and was identified as EtOCCOCl . The reaction characterizes the pyrocarbonic esters as peculiar anhydrides which possess some analogy with ordinary anhydrides. This splitting mechanism confirms the structure of the mol. of pyrocarbonic ester. Attempts to replace emetine with such bases as urotropine for the prepn. of pyrocarbonic esters were unsuccessful. The corresponding S analog, $(\text{EtSCO})_2\text{O}$, was not produced under the same conditions from the treatment of emetine (in the presence of base) with EtSCOCl , which was obtained from the reaction of phosgene with EtSH . 11 references.
 W. N. Henn

10

1ST AND 2ND ORDERS PROCESSES AND PROPERTIES INDEX 100 AND 4TH ORDERS

CA 10

3-Bromopropylphosphinous acid and its derivatives.
L. N. Parfen'ev and M. Kh. Shahev. Izv. Akad. Nauk SSSR, Khim. Ser., 1963, 13, 87-94 (1969).
 Gosudarst. Univ., Novosib. Rabot. Khim. 15, 87-94 (1969).
 Heating trimethylene dibromide with P(OEt)₃ produced the di-Et ester of 3-propylphosphinous acid according to the reaction P(OEt)₃ + BrCH₂CH₂CH₂Br = BrCH₂CH₂CH₂PO(OEt)₂ (I) + EtBr. The P(OEt)₂ was obtained by the method of Arbuzov according to the equation PCl₃ + 3EtONa = 3NaCl + P(OEt)₃ in dry ether. The product of the reaction was fractionally distd. (twice) under a reduced pressure and the fraction b_p 49-50° taken. The final product, P(OEt)₂, b_p 49°. It is a colorless liquid with a pleasant odor, is sol. in water and alc. and slightly sol. in ether. Heating I with HBr produced the free 3-bromopropylphosphinous acid according to the reaction I + 2HBr = 2EtBr + BrCH₂CH₂CH₂PO(OH)₂. I (4.5 g.) was sealed in a tube with 9 ml. of 40% HBr and the sealed tube was kept in a water thermostat for 3 hrs. at 100°. After heating 2 layers were formed in the mixt. The lower layer was EtBr. The upper layer was freed from HBr by repeated fractionations, producing an acid which is a yellowish green sirup-like liquid, and which is sol. in water, alc. and slightly sol. in ether. It was analyzed in the form of the Ba salt. By heating BrCH₂CH₂CH₂PO(OH)₂ with alc. KOH it is transformed into the K salt of allylphosphinous acid which behaves like an unsatd. substance. It instantly decolorizes Br water and KMnO₄; an excess of KMnO₄ produced ppt. of the dark brown oxides. Fifteen references. W. R. Henn

A50-31A METALLURGICAL LITERATURE CLASSIFICATION

FROM SYNDICATE FROM BOMBAR FROM BOMBAR

PARFENT'YEV, L. N.

"Action of Bromine on Sodium Ethylate", Dok. AN, 24, No. 8,

1939. Lab. Organic Chem., Uzbek Univ., -c1939-.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

COMMON ELEMENTS

OPEN MATERIALS INDEX

PROCESS AND PROPERTIES INDEX

10

ca

The action of ethyl orthoformate on succinyl and acetyl-succinates. L. N. Parient'ev and A. M. Mirzaev. *J. Gen. Chem.* (U. S. S. R.) 11, 707-12(1941).—In the presence of a little concd. H₂SO₄, HC(OEt), and Ac₂ in the ratio 2 : 1 react normally at 40-50° to give the *dibetal.* b_p 61-2°, d₄ 0.981. With CH₃Ac₂, the products are HC(CH₃Ac₂)₂, b_p 140-1°, m. 30°, which decmp. on standing, and MeC(OEt)·C·C(OEt)Me, b. 128.0°, d₄ 0.910. This adds 4 atoms of Br to give a bromide which decmp. even when it is distd. at 30 mm. H. M. L.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

ALPHABETIC

ALPHABETIC

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

PARFENT'YEV, L. N.

20812. Parfent'yev, L. N. K voprosu o khimicheski svyazannoy uglekislote shampanskikh vin. Trudy Krasnodarsk. in-ta pishch. Prom-sti, vyp. 3, 1948, s. 17-21. —Bibliogr. 6 nazv.

SO: LETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949.

PARFENT'YEV, L. N.

20815. Parfent'yev, L. N. i Salchinkin, A. P. Izucheniye reaktsii gldroliza dietilugol'noy kisloty. (K tekhnologii vinodaliga). Trudy Krasnodarsk. in-ta pishch. prom-sti, vyp. 4, 1948, s. 123-26. --Bibliogr. 7 nazv.

SO: SETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949.

CA

16

The possible role of pyrocarbonate esters in the formation of champagne-quality sparkling wines. I. I. Pat-
senter and V. I. Kovalev (Krasnodar Inst. Beverage
Ind.). *Vinodzie i Vinogradarstvo S.S.S.R.* 11, No. 3,
16-19(1951).—Several possible ways in which CO₂ is
temporarily "bound" in org. combinations in sparkling
wines are discussed. The properties of diethyl pyrocarbon-
ate, (EtOOC)₂O, (I) b_p 73-74°, d₄²⁰ 1.1800, are described.
I is colorless, has a sparkling taste, a fruity wine odor, is
poorly sol. in water, readily sol. in ether, alc., and various
org. solvents. It is decarboxylated at 155° to give Et₂CO₂
(II) and CO₂. Hydrolysis of I with KOH yields C₂H₅OH
(III) and KHCO₃. Hydrolysis takes place very readily in
dist. water at room temp., yielding III and CO₂. The
same reaction takes place in 0.1 N acid, or in a dry wine
such as Ribling. Reaction of I with PhNH₂ gives phenyl-
urethan. I with ROH yields ROCOOR, III, and H₂O. The
potential utility of I in org. synthesis is pointed out, and its
possible role in sparkling wines is discussed. S. G.

1957

PARFENT'YEV, L. N.

U S S R .

On the theory of champagneization. L. N. Parfent'ev and V. I. Kovalenko (Inst. Food Ind., Krasnodar). *Vinodzie i Vinogradarstvo S.S.S.R.* 12, No. 3, 28-9 (1952).—Diethyl pyrocarbonate (I), formed during the process of champagneization, is the chem. compd. of definite structure, EtOCO-O-COEt , and not a phys. combination of CO_2 with EtOH . I can be synthesized as follows: $\text{EtOCOC} + \text{EtOCCOONa} \rightarrow \text{EtOCCOCCOEt} + \text{NaCl}$. I is a colorless liquid, $d_4^{20} 1.1300$, nearly insol. in water but readily sol. in Et_2O , alc., and other org. solvents, $b_p 73-74^\circ$. Chemically, I is able to undergo decarboxylation (on pyrolysis), hydrolysis, and ammonolysis. E. Wierbicki

PARFENT'YEV, M., tekhnik-stroitel'.

Our successes and failures in building. Sel'. stroi. 12 no.3:31
Mr '58. (MIRA 11:3)

(Sosnovo District--Farm buildings)

NELYUBIN, N.L., *zasl. uchitel' shkoly RSFSR*; KACHANOV, I.A.;
NOVIKOVA, L.I., *red.*; PARFENT'YEV, M.V., *red.*; TARASOVA,
V.V., *tekh. red.*

[Manual training in eight-year schools; conference on theory and practice of the Sverdlovsk Province teachers] *Iz opyta trudovogo vospitaniia v vos'miletnei shkole; nauchno-prakticheskaia konferentsiia uchitelei Sverdlovskoi oblasti. Pod red. L.I. Novikovoi. Moskva, Izd-vo Akad. pedagog. nauk RSFSR, 1961. 190 p.*
(MIRA 15:4)

1. Akademiya pedagogicheskikh nauk RSFSR, Moscow. Institut teorii i istorii pedagogiki. 2. Direktor Sverdlovskogo oblastnogo instituta usovershenstvovaniya uchitelev (for Nelyubin). 3. Zaveduyushchii kabinet pedagogiki Sverdlovskogo oblastnogo instituta usovershenstvovaniya uchiteley (for Kachanov). 4. Zaveduyushchaya laboratoriyey trudovogo vospitaniya Nauchno-issledovatel'skogo instituta teorii i istorii pedagogiki Akademii pedagogicheskikh nauk RSFSR (for Novikova).

(Sverdlovsk Province—Manual training)

PARFENT'YEV, M.

The plan is fulfilled ahead of time. Sel'.stroil. 11 no.12:
10 D '56. (MLRA 10:2)

1. Nachal'nik otдела po stroitel'stvu v kolkhozakh,
Sosnovskogo rayona, Chelyabinskoy oblasti.
(Sosnovskiy District--Farm buildings)

MYASKOVSKIY, Izrail' Grigor'yevich; LEVI, S.S., kand.tekhn.nauk, retsenzent;
PARFENT'YEV, N.F., inzh.-prepodavatel'; DEMKOV, Ye.D., inzh.,
nauchnyy red.; TYUTYUSIK, M.S., red.; GILENSON, P.G., tekhn.red.

[Electric equipment of building materials plants] Elektrooboru-
dovanie zavodov stroitel'nykh materialov. Moskva, Gos.izd-vo
lit-ry po stroit., arkhitekt. i stroit.materialam, 1959. 232 p.
(MIRA 12:4)

1. Nauchno-issledovatel'skiy institut organizatsii, mekhani-
zatsii i tekhnicheskoy pomoshchi stroitel'stvu Akademii stroi-
tel'stva i arkhitektury SSSR (for Levi). 2. Dneprodzerzhinskiy
industrial'nyy tekhnikum (for Parfent'yev).
(Building materials industry--Electric equipment)

MYKOVSKIY, Izrail' Grigor'yevich; M. I. CHEN, A.V., inzh.,
retsenzent; IRFUT'YEV, N. I., inzh., retsenzent;

(Electric equipment for building materials plants.
Elektrooborudovanie zavodov stroitel'nykh materialov. Izd.2.,
perer. i dop. Moskva, Stroizdat, 1962. 300 p.
(S.S. - 117)

PARFENTYEV, N.N.

Nauchnoye znachenie rabot S.V. Kovalevskoy v oblasti chistoy matematiki. Kazan', Izv. fiz. matem. o-va (2), 23 (1923), 1-11.

SO: Mathematics in the USSR, 1917-1947
edited by Kurosh, A.G.,
Markushevich, A.I.,
Rashevskiy, P.K.
Moscow-Leningrad, 1948

PANAMA, C.

W. GARDNER, "The ABC's of Panama", 1984, p. 37-38

FARFENT'YEV, T. L.

Wine and Wine Making - Analysis

Determining the freezing temperature of a wine by the component method. Vin.
SSSR. 12 no. 6, 1952.

1952
9. Monthly List of Russian Accessions, Library of Congress, September ~~1958~~, Uncl.

PARFENT'YEV, U.

Correct disability evaluation is a guarantee for reducing temporary
inability to work. Okhr.truda i sots.strakh. 5 no.4:13-14 Ap
'62. (MIRA 15:4)

1. Glavnyy vrach 2-y gorodskoy bol'nitsy, g. Kovrov.
(DISABILITY EVALUATION)

PARFENT'YEV, V. Ya.

Parfent'yev, V. Ya. "Pests and diseases of grain crops and grasses and measures to combat them", Trudy Vyssheyshoy sessii Kazakh. filiala Vsesoyuz. akad. s.-m. nauk im. Lenina, posvyashch. soborom razvitiya zern. khoz-va sev. obl. Kazakh. SSR, Alma-Ata, 1949, p. 125-33.

SO: U-411, 17 July 53, (Letopis' Zhurnal 'nykh Statey, No. 20, 1949).

PARFENT'YEV, U.U.

Reorganization of public health service. Zdrav. Ros. Feder. 7
no.8: 6-8 Ag'63. (MIRA 16:10)

1. Glavnyy vrach Tsentral'noy bol'nitsy g. Kovrova.
(PUBLIC HEALTH)

PARFENT'YEV, U.U.

Organizing differential service for the population. Zdrav.Ros.
Feder. 6 no.11:19-22 N '62. (MIRA 15:12)

1. Glavnyy vrach 2-y Gorodskoy bol'nitsy goroda Kovrova.
(PUBLIC HEALTH) (MEDICAL CARE)

LYAKHOVITSKIY, F.M.; PARFIYANOVICH, V.A.

Use of percussion devices in industrial seismic prospecting. Razved.
goefiz. no.1:32-37 '64. (MIRA 18:7)

КАРЕНТИНОВЫЕ
LOGINOVA-DUDYKINA, M.M.; PARENTIYEV, L.Ya.

Jumping plant lice of the genus *Caillardia* Bergevin (Homoptera, Psyllidae) harmful to saksaul [with summary in English]. Ent. oboz. 35 no.2:377-396 '56. (MLRA 9:10)

1. Zoologicheskii institut Akademii nauk SSSR, Leningrad.
(Plant lice) (Haloxylon--Diseases and pests)

PARFENT'YEV, V. Ya.

The oleaster leaf beetle *Haltica suvorevi* Ogl. (Coleoptera, Chrysomelidae) in the river bottomland forests of Kazakhstan. Ent. obs. 36 no. 1: 96-97 '57. (MIRA 10:4)

1. Respublikanskaya stantsiya zashchity rasteniy, Alma-Ata.
(Kazakhstan--Leaf beetles) (Oleaster-- Diseases and pests)

PARFENT'YEV, V.Ya.

New data on the Crimean house beetle (*Nicobium schneideri* Reitt.)
(Coleoptera, Anobiidae). Ent.oboz. 32:93-95 '52. (MLRA 7:1)
(Crimea--Beetles) (Beetles--Crimea)

PARFERT'YEV, V.Ya.

Snout beetles (Coleoptera, Curculionidae) as wood pests of a residential
houses and technical structures. Ent. ooz. 39 no.3:545-550 '60.
(MIRA 13:9)

(Weevils)

(Materials--Deterioration)

PARFENT'YEV, V.Ya.

Death watch beetles of the genus *Oligomerus* (Coleoptera, Anobiidae)
in the Crimea. Ent.oboz. 33:90-94 '53. (MLRA 7:5)

1. Respublikanskaya stantsiya zashchity rasteniy, Alma-Ata.
(Crimea--Deathwatch beetles) (Deathwatch beetles--Crimea)

PARFENT'YEV, V. Ya.
LOGINOVA-DUDYKINA, M.M.; PARFENT'YEV, V. Ya.

Jumping plant lice (Homoptera, Psyllodea) injurious to *Populus diversifolia* and *Populus pruinosa* in the Lake Balkhash region [with summary in English]. Ent. oboz. 37 no.1:88-104 '58.

(MIRA 11:3)

1. Zoologicheskiy institut AN SSSR, Leningrad.
(Balkhash region--Jumping plant lice)
(Poplar--Diseases and pests)

USSR/General and Specialized Zoology - Insects.

P.

Abs Jour : Ref Zhur - Biol., No 8, 1958, 35328

Author : Parfent'yev, V.Ya.

Inst :

Title : The Oleaster Leaf Beetles *Haltica suvorovi* Ogl. (Coleoptera, Chrysomelidae) in the Tugay Forests of Kazakhstan.

Orig Pub : Entomol. obozreniye, 1957, 36, No 1, 96-97.

Abstract : The life cycle, phenology, ecology, character of harmful activity and results of laboratory testing of HCCH were given.

Card 1/1

PARFENT'YEV, V. Ya.

Fir - Diseases and Pests

Bark beetles and cerambycidae of the fir *Picea shrenkiana* Fisch et Mey.
Ent. ob. 31 no. 3-4, 1951

Monthly List of Russian Accessions, Library of Congress, September 1952. Unclassified.

PARFENT'YEVA, I.N.

From our limited experience in regional studies. Uch. zap. Ped.
inst. Gerts. 169:201-204 '59. (MIRA 14:1)
(Leningrad--Geography--Study and teaching)

PARFENT'YEVA, N.S.

Position of Aynov Islands of the Barents Sea in the geobotanical zoning of the Kola Peninsula. Nauch.dokl.vys.shkoly; biol.nauki no.2:141-143 '63. (MIRA 16:4)

1. Rekomendovana kafedroy geobotaniki Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.
(AYNOV ISLANDS--PHYTOGEOGRAPHY)

PARFENT'YEVA, N.S.

Cedars growing on the Kandalaksha Bay islands of the
White Sea. Vest. Mosk. un. Ser. biol., pochv., geol.,
geog. 14 no.3:67-69 '59. (MIRA 13:6)

1. Kafedra geobotaniki Moskovskogo universiteta.
(Kandalaksha Preserve--Cedar)

PARFENT'YEVA, N.S.

Use of florometric surveying in lead deposits of the central Kara-Tau.
Nauch. dokl. vys. shkoly; biol. nauki no.3:134-137 '61.

(MIRA 14:7)

1. Rekomendovana kafedroy geobotaniki Moskovskogo gosudarstvennogo
universiteta im. M.V.Lomonosova.

(KARA-TAU—LEAD ORES)

(INDICATOR PLANTS)

PARFENT'YEVA, N.S.

Geobotanical regions in the northwestern area of the European part
of the U.S.S.R. Nauch. dokl. vys. shkoly; biol. nauki no. 1:117-119
'60. (MIRA 1:2)

1. Rekomendovana kafedroy geobotaniki Moskovskogo gosudarstvennogo
universiteta im. M.V. Lomonosova.
(Tandaksha region--Phytogeography)

PARFENT'YEVA, N.S.

Vegetation as indicator of ancient karst funnels in the central
Kara-Tau. Nauch.dokl.vys.shkoly; biol.nauki no.3:173-177 '59.
(MIRA 12:10)

1. Rekomendovana kafedroy geobotaniki Moskovskogo gosudarstvennogo
universiteta im. M.V.Lomonosova.
(Kara-Tau--Karst) (Indicator plants)

PARFENT'YEVA, N.S.

Ecology and biology of *Scutellaria immaculata* Nevski. Vest.
Mosk.un.Ser.biol.,pochv.,geol.,geog. 13 no.4:77-80 '58.
(MIRA 12:4)

1. Kafedra geobotaniki Moskovskogo universiteta.
(Scullcap (Plant))

PARFENT'YEVA, N.Ye.

Organizing independent work of students studying physics in a
boarding school. Fiz. v shkole 20 no.6:82-84 N-D '60.
(MIRA 14:2)

1. 14-ya shkola-internat, Moskva.
(Physics—Study and teaching)

MARGOLIS, Aron Abramovich; PAPPENT'YEVA, Natal'ya Yefimovna; SOKOLOV, Ivan Ivanovich. Priznaniye uchastiya: MUR, D.M.; IVANOVA, L.A.; YEGOROV, A.L. ALEKSEIEVA, N.V., red.; SVITKOV, L.P., red.; KOVALENKO, V.L., tekhn.red.

[Laboratory manual for experiments in physics; for students in pedagogical institutes] Praktikum po metodike fiziki; posobie dlia studentov pedagogicheskikh institutov. Moskva, Gos. uchebno-pedagog.izd-vo M-va prosv.RSPSR, 1960. 341 p.
(MIRA 14:2)

(Physics--Laboratory manuals)

PARFENT'YEVA, T.L.

Simplified method of determining sugar in wine. Trudy KIPP
no. 22:383-385 '61. (MIRA 16:4)
(Wine and winemaking--Analysis) (Sugar)

PARFENT'YEVA, T.L.

Contraction in the alcoholization of must and wine. Trudy
KIPP no.22:386-388 '61. (MIRA 16:4)
(Wine and winemaking)

PARFENT'YEVA, T. L.

Colorimetric method for determining pentoses and hexoses' in hydrolyzates. Izv. vys. ucheb. zav.; pishch. tekhn. no. 2:156-160 '64. (MIRA 17:5)

1. Krasnodarskiy politekhnicheskiy institut, kafedra neorganicheskoy khimii.

KUL'NEVICH, V.G.; PAL'KOVICH, Yu.Ye.; PARFENT'YEVA, T.L.

Selective determining of xylite and xylose content in their
mixture. Izv.vys.ucheb.zav.; pishch.tekh. no.1:153-157 '63.
(MIRA 16:3)

1. Krasnodarskiy institut pishchevoy promyshlennosti, kafedra
organicheskoy khimii.

(Hydrogenation) (Xylose)

PARFENT'YEVA, T. L.

1838 PARFENT'YEVA, T. L. K izucheniyu vyzkostei vin pri niskikh temperaturakh. Trudy Krasnodarsk. in-ta pishch. prom-sti. Vyp. 6, 1949, s. 131-34.

SO: Letopis' Zhurnal'nykh statey, No. 19, Moskva, 1949

1. , PARFENT'YEVA, T. L.
2. USSR (600)
4. Wine and Wine Making - Analysis
7. Determining specific gravity in oenological practice. Vin. SSSR 12 no.11. 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

KUL'NEVICH, V.G.; FAL'KOVICH, Yu.Ye.; PARFENT'YEVA, T.L.

Separate determining of sugars and polyatomic alcohols in
multicomponent systems. Izv. vys. ucheb. zav.; pishch. tekhn.
no.6:147-149 '63. (MIRA 17:3)

1. Krasnodarskiy politekhnicheskiy institut, kafedra organi-
cheskoy khimii.

1. PARENTE'YEVA, T. L.
2. USSR (600)
4. Wine and Wine Making
7. Temperature at which wine has the greatest density, Vin. SSSR, 13, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.

PARFENT'YEVA V. F.

"Review of Professor D. L. Vaza's Book 'Pocket
Atlas of Operative Surgery by Military Doctors',"
Khirurgiya, No. 8, 1948. Cand. Med. Sci.

PARFENT'YEVA, V. F.

355520. Variant kulisnogo razreza pri opratsiyakh no slepoy kishke i cherveobraznom otrostke. Vracheb. Delo, 1949, No. 11, stb. 1011-12.

Letopis' Zhurnal'nykh Statey, Vol. 48, Moskva, 1949

^F
PARCENT'YEVA, V . F.

Liver - Blood vessels

Variability of forms and anastomoses of intra-hepatic blood vessels. Uch. zap. It.
mosk. med. inst. 2, 1951.

Monthly List of Russian Accessions, Library of Congress
April 1952. UNCLASSIFIED.

PARFENT'YEVA, V.F.
PARFENT'YEVA, V.F.; SOSUNOV, A.V.

Pathomorphology of experimental gastritis. *Biol. eksp. biol. i med.*
37 no.1:74-77 Ja '54. (MIRA 7:3)

1. Iz kafedry operativnoy khirurgii s topograficheskoy anatomiyey
(zaveduyushchiy - professor V.A.Ivanov) II Moskovskogo meditsin-
skogo instituta im. I.V.Stalina i kafedry operativnoy khirurgii
s topograficheskoy anatomiyey (zaveduyushchiy - professor M.A.
Yugorov). (Stomach--Diseases)

PARFENT'YEVA, V.F.

PARFENT'YEVA, V.F.; SOSUNOV, A.V.

Histomorphologic modifications of the liver in dogs under prolonged stimulation of the vagus nerve. *Biul. eksp. biol. i med.* 37 no. 2: 68-71 P '54. (MLBA 7:6)

1. Iz kafedry operativnoy khirurgii s topograficheskey anatomiyey (zav. prof. V.A. Ivanov) II Moskovskogo meditsinskogo instituta imeni I.V. Stalina i kafedry operativnoy khirurgii s topograficheskey anatomiyey (zav. prof. M.A. Yegorov) Ryazanskogo meditsinskogo instituta imeni I.P. Pavlova.

(LIVER, physiology,

*eff. of prolonged stimulation of vagus nerves, histol. & morphol. changes in dog)

(NERVES, VAGUS, physiology,

*eff. of stimulation on liver, histomorphol. changes in dogs)

PARFENT'YEVA, V.F.; SHCHETININA, Ye., red.; POLONSKIY, S., tekhn.red.

[Architectonics of the blood vessels of the liver] Arkhitekto-
nika krovenosnykh sosudov pecheni. Kishinev, Gos.izd-vo "Kartia
Moldoveniaska," 1960. 101 p. (MIRA 13:12)
(LIVER--BLOOD SUPPLY)

PARFENT'YEV, V.F.; TKACHUK, V.A.; SHCHETININA, Ye., red.;
TARAKANOVA, V., tekhn. red.

[Architectonics of the blood vessels of the thymus gland during
early ontogenesis] Arkhitektonika krovenosnykh sosudov viloch-
kovci zhelezy v rannem ontogeneze. Kishinev, Gos.izd-vo "Kartia
molcoveniaske," 1961. 123 p. (MIRA 15:6)
(THYMUS GLAND--BLOOD SUPPLY)

PARFENT'YEVA, V.F.; SHCHETININA, Ye., red.; SHEKHTER, D., tekhn.red.

[Block of the nerve trunks in the neck] Blokada nervnykh stvolov
na shee. Kishinev, Kartia moldoveniaske, 1962. 113 p.

(MIRA 15:6)

(NOVOCAINE) (NECK--INNERVATION)

PARFENYA, N.G., inzhener.

Repair of electric motors used in driving cement mills and rotary
kilns. Cement 20 no.5:28 S-0 '54. (MLRA 7:11)
(Electric motors--Repairing)

KHALILOV, A.Kh.; **PARFEN'YEV, I.**; **AKCHURIN, B.S.**, kand.veterinarnykh nauk;
ALPAROV, D.A., kand.biologicheskikh nauk; **GAREYEV, M.S.**, mladshiy
nauchnyy sotrudnik; **SHERSTOV, S.V.**

Use of tissue preparations. Veterinariia 38 no.1:25-26 Ja '61.
(MIRA 15:4)

1. Sekretar' Gharodinskogo rayonnogo kmiteta Kommunisticheskoy partii Sovetskogo Soyuz Dagestanskoj SSR (for Khalilov).
 2. Glavnyy veterinarnyy vrach Orzhitskogo rayona, Poltavskoy oblasti (for Parfen'yev).
 3. Bashkirskaya nauchno-issledovatel'skaya vetbaklaboratoriya (for Akchurin, Alparov, Gareyev).
 4. Glavnyy veterinarnyy vrach Upravleniya myaso-molochnoy i rybnoy promyshlennosti Zaporozhskogo sovmarkhoza (for Sherstov).
- (Tissue extracts) (Stock and stockbreeding)

PAVLOV, S.T.; PARFEN'YEV, R.V.; FIRSOV, Yu.A.; SHALYT, S.S.

Effect of electron spin on quantum oscillations of the galvanomagnetic coefficients of n-InSb. Zhur. eksp. i teor. fiz. 48 no.6: 1565-1571 Je '69. (MIRA 18:7)

1. Institut poluprovodnikov AN SSSR.

MUZHDAVA, V.M.; FARFEN'YEV, R.V.; SHALYT, S.S.

Magnetophonon oscillation of the thermoe.m.f. in r -ind in a longitudinal magnetic field. Fiz. tver. tela 7 no.8:2379-2382 Ag '65. (MTEA 18:9)

1. Institut poluprovodnikov AN SSSR, Leningrad.

ACCESSION NR: AP4013541

S/0181/64/006/002/0647/0649

AUTHORS: Shaly*t, S. S.; Parfen'yev, R. V.; Muzhdaba, V. M.

TITLE: Experimental confirmation of a new type of oscillation of transverse reluctance

SOURCE: Fizika tverdogo tela, v. 6, no. 2, 1964, 647-649

TOPIC TAGS: reluctance, current carrier, inelastic scattering, semiconductor, phonon, Larmor frequency, relaxation time

ABSTRACT: This type of oscillation, determined by inelastic scattering of current carriers in an undegenerate semiconductor, was proposed on theoretical grounds by V. A. Gurevich and Yu. A. Firsov (ZhETF, 40, 199, 1961). To observe this type of oscillation, it is necessary that the phonon spectrum of the crystal have an optical branch and that the experiment be carried out in a strong magnetic field. The authors define these conditions in terms of the Larmor frequency, relaxation time, and mobility. From a consideration of these and of the physical character of the oscillation, they arrive at a value for the period of the oscillation, depending on the effective mass and the energy of the optical phonons. The problem of distinguishing the proposed oscillation from others, especially the

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ACCESSION NR: AP4013541

Shubnikov-de Haas oscillation, is described. Since the latter appears most favorably at low temperature, a higher temperature must be considered, but this leads to a weakening of the effect through decrease in mobility and complications in the current-carrier spectrum. Some optimal temperature is sought. It was found that five maxima appear in undegenerate InSb at a temperature of 104K ($H_m = 34.0, 17.0, 11.0, -8.0, \text{ and } -6.5 \text{ oersteds} \cdot 10^3$) with a period of $\approx 3 \cdot 10^{-5}$ oersteds⁻¹. The position of the maxima is independent of temperature, but the effect was found to weaken as the temperature declined from 104 to 63K and also as it increased to 200K. "We express our thanks to V. L. Gurevich for discussing our results and for his valuable suggestions." Orig. art. has: 1 figure and 1 formula.

ASSOCIATION: Institut poluprovodnikov AN SSSR, Leningrad (Institute of Semiconductors, AN SSSR)

SUBMITTED: 26Oct63

DATE ACQ: 03Mar64

ENCL: 00

SUB COLE: EC,SS

NO REF SOV: 002

OTHER: 003

Card 2/2

ACCESSION NR: AP4043614

S/0056/64/047/002/0444/0451

AUTHORS: Parfen'yev, R. V.; Shaly*t, S. S.; Muzhdaba, V. M.

TITLE: Experimental confirmation of the magnetophonon resonance in n-type InSb

SOURCE: Zh. eksper. i teor. fiz., v. 47, no. 2, 1964, 444-451

TOPIC TAGS: semiconductor resistance, quantum statistics, galvanomagnetic effect, indium antimonide, carrier density, low temperature phenomenon, phonon

ABSTRACT: This is a continuation of an earlier report (FTT v. 6, 647, 1964) of a new effect, first observed by S. M. Puri and T. H. Geballe, consisting of a new type of oscillation of magnetoresistance of a semiconductor, and resulting from inelastic scattering of the carriers by optical phonons. The present article describes the results of a detailed experimental investigation of the trans-

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ACCESSION NR: AP4043614

verse and longitudinal magnetoresistance of various samples of n-InSb. The results of the tests, which were made in a strong magnetic field, confirm the theoretical analysis of this effect, made by V. L. Gurevich and Yu. A. Firsov and published in the same issue of the journal (ZhETF, v. 47, 734, 1964). The tests were made at $T = 90K$ in fields up to ~ 38 kOe. The results show that the new type of oscillation differs from the Shubnikov-deHaas oscillation in that the former does not depend on the carrier density and its amplitude decreases with decreasing temperature and practically disappears at nitrogen temperatures, whereas the latter is observed only at very low temperatures and is determined only by the carrier density. Furthermore, the former can occur for any statistics of the electron gas, whereas the latter can occur only in a degenerate gas. Weak but noticeable oscillations of this type were observed on the longitudinal magnetoresistance curve of InAs, too, showing that this effect can be observed in other semiconductors. "In conclusion, the authors thank V. L. Gurevich and Yu. A. Firsov for suggesting the

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ACCESSION NR: AP4043614

research topic and for a discussion of the theoretical problems, and M. V. Aleksandrova for great help with the measurements." Orig. art. has: 5 figures, 1 formula, and 1 table.

ASSOCIATION: Institut poluprovodnikov Akademii nauk SSSR (Institute of Semiconductors, Academy of Sciences, SSSR)

SUBMITTED: 06Mar64

ENCL: 01

SUB CODE: SS

NR REF SOV: 003

OTHER: 004

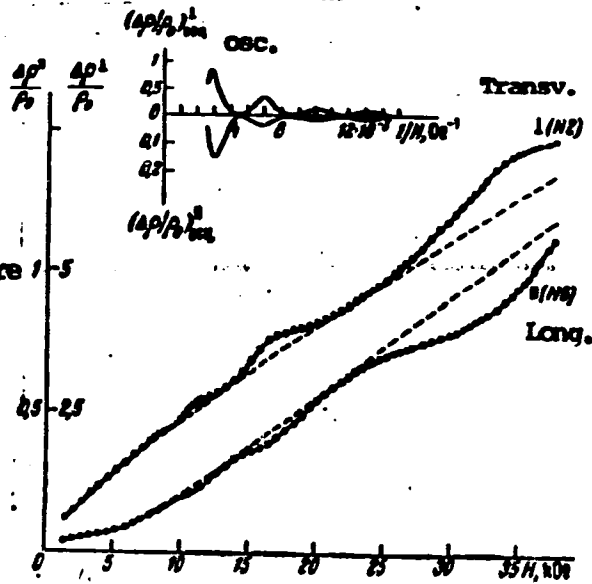
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3/4

ACCESSION NR: AF1043621

ENCLOSURE: 01

Curves showing transverse and longitudinal magnetoresistance, obtained for two n-InSb samples at 90K. Dashed lines represent the monotonic background on which the resonant oscillations are superimposed. The upper part of the figure 1-5 shows the oscillating part of the magnetoresistance as a function of the reciprocal field intensity



Card

4/4

9(4, 6)

SOV/170-59-4-12/20

AUTHORS: Parfen'yev, R.V., Chudnovskiy, F.A.

TITLE: The Use of Semiconductor Thermistors as Pickups for the Automatic and Simultaneous Measuring of Temperature and Moisture of the Air and Effective Radiation (Ispol'zovaniye poluprovodnikovykh termosoprotivleniy v kachestve datchikov dlya avtomaticheskogo i odnovremennogo izmereniya temperatury, vlazhnosti vozdukha i effektivnogo izlucheniya)

PERIODICAL: Inzhenerno-fizicheskii zhurnal, 1959, Nr 4, pp 87-92 (USSR)

ABSTRACT: Effective radiation of a given surface is the quantity equal to the difference between the thermal radiation of the given surface and a surrounding medium. This concept is of a special importance for natural surfaces, such as soil, water reservoirs, etc called usually underlying surfaces. Thus the effective radiation E equals the difference between the long wave radiation of the underlying surface and that of the atmosphere. The existing devices for measuring it do not meet the requirements, being sensitive not only to the long wave radiation but also to the short wave one. The authors propose to use the known empirical formula of Brendt:

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SOV/170-59-4-12/20

The Use of Semiconductor Thermistors as Pickups for the Automatic and Simultaneous Measuring of Temperature and Moisture of the Air and Effective Radiation

$$E = \epsilon T^4 (a - b\sqrt{e})$$

by expanding it into a series being a function of the readings of the dry thermometer t and the wet one t^* :

$$E = A_1 + A_2 t + A_3 t^2 + A_4 t^* + A_5 (t^*)^2 + \dots$$

They suggest to design a computer which should include semiconductor thermistors for recording temperature and moisture of the air and two independent circuits the currents in which should vary in functional dependence on the temperatures of the dry and wet thermometer respectively. The detailed theory of calculations is given in a paper by M.A. Kaganov [Ref 2] to whom the authors express their gratitude for his advices. The proposed device is multi-purpose one making possible to establish simultaneously the three most important characteristics of the ground air: temperature, moisture and effective radiation, by direct reading the indications of a galvanometer.

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SOV/170-59-4-12/20

- The Use of Semiconductor Thermistors as Pickups for the Automatic and Simultaneous Measuring of Temperature and Moisture of the Air and Effective Radiation

meter. The accuracy of determination of these characteristics is quite satisfactory.

There are 2 circuit diagrams, 2 tables and 3 Soviet references.

ASSOCIATION: Agrofizicheskiy institut (Institute of Agricultural Physics), Leningrad.

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27304

S/181/61/003/008/034/034
B111/B102

18.8100

24,7700

AUTHORS:

Parfen'yev, R. V., Pogarskiy, A. M., Farbshteyn, I. I., and
Shalyt, S. S.

TITLE:

Effect of a heat treatment upon the anisotropy of the
galvanomagnetic properties of tellurium

PERIODICAL:

Fizika tverdogo tela, v. 3, no. 8, 1961, 2501-2504

TEXT: The authors determined the hole mobility from the formulas of an isotropic model (one scalar mass and isotropic scattering) using experimental data on the Hall effect and on the reluctance in a weak transverse field. The mobility values determined from the Hall effect and from the reluctance do not differ. At 77.4°K, their ratio in specimens whose trigonal crystal axis is in the direction of the current, approaches a value of 0.85. The difference between u_{Hall} and $u_{\Delta\varphi}$ is regarded as a measure of the number of structural defects. Heat treatment of tellurium leads to a rise of mobility, especially in the region of maximum temperature dependence of mobility (below 20°K). In some specimens, the Hall mobility attains $5 \cdot 10^4$ cm²/v.sec in this region. The difference

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Effect of a heat treatment upon the...

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between $u_{E_{all}}$ and $u_{\Delta Q}$ can be explained by an anisotropy of the galvanomagnetic properties of tellurium. The fact that a heat treatment leads to an approach of these two values can thus be explained by a decrease in anisotropy due to a diminution of structural defects. In order to verify this conclusion, measurements were made of the longitudinal ($\Delta Q_{||}$) and the transverse (ΔQ_{\perp}) reluctance which are more sensitive to anisotropy (cf. Fig. 2). The results showed that the galvanomagnetic properties of tellurium single crystals free from structural defects have at least cylindrical symmetry in the range of 4-80°K. The asymmetry found by various authors was due to structural defects. If the latter are dislocations, the anisotropy of electrical properties due to them may result from the strong anisotropy of the mechanical properties of tellurium. L. I. Korovin and Yu. A. Firsov (Ref. 6: ZhTF, XXXIII, 11, 1958) are mentioned. The authors express their gratitude to the latter for having discussed the results. There are 2 figures and 8 references: 3 Soviet-bloc and 5 non-Soviet-bloc.

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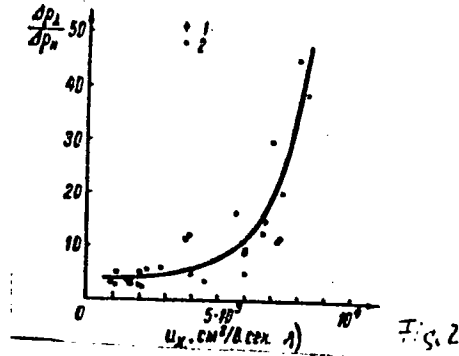
S/181/61/003/008/034/034
B111/B102

Effect of a heat treatment upon the...

ASSOCIATION: Institut poluprovodnikov AN SSSR, Leningrad (Institute of Semiconductors, AS USSR, Leningrad)

SUBMITTED: May 9, 1961

Fig. 2: Change of the ratio between transverse and longitudinal reluctance during heat treatment. Legend: (1) u_x - Hall mobility (u_{Hall}), $cm^2/v \cdot sec.$



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MOYZHES, B.Ya.; PARFEN'YEV, R.V.; CHUDNOVSKIY, F.A.; EFROS, A.L.

Approximate calculation of the mean group velocities of phonons
in cubic crystals. Fiz.tver.tela 3 no.7:1933-1940 J1 '61.
(MIRA 14:8)

1. Institut poluprovodnikov AN SSSR, Leningrad.
(Lattice theory)

PARFEN'YEV, R.V.; POGARSKIY, A.M.; FARBSHTEYN, I.I.; SHALYT, S.S.

Effect of annealing on the anisotropy of the galvanomagnetic properties of tellurium. Fiz. tver. tela 3 no.8:2501-2504, Ag '61. (MIRA 14:8)

1. Institut poluprovodnikov AN SSSR, Leningrad.
(Tellurium—Magnetic properties)
(Hall effect)

44178

S/181/62/004/012/035/052
B125/B102

24.7600

AUTHORS: Parfen'yev, R. V., Pogarskiy, A. M., Farbshteyn, I. I., and Shalyt, S. S.

TITLE: The galvanomagnetic properties of tellurium. The structure of the valence band

PERIODICAL: Fizika tverdogo tela, v. 4, no. 12, 1962, 3596-3611

TEXT: The galvanomagnetic properties of pure, annealed Te monocrystals and the temperature dependence of the most important galvanomagnetic coefficients were studied and analyzed at 77°K and between 1.4°K and 300°K, respectively. Using the d-c potentiometer method, the 12 components of the galvanomagnetic resistance tensor are determined in magnetic fields of up to 35 koe from measurements taken on monocrystalline specimens with longitudinal, transverse and oblique orientation. The coarsely crystalline castings for the pricking out of the specimens with longitudinal orientation were produced by zonal purification, either by cooling the solution slowly in a dish or by the Czochralski method. The coarsely crystalline casting, used for cutting out the specimens of transverse and oblique orientation,

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The galvanomagnetic properties ...

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was produced by slow cooling. The experimental results are compared with those obtained by other authors. The isoenergetic surface of the holes in tellurium closed to the extremum are ellipsoids of revolution whose axis is a symmetry axis of the third order. In the case of isotropic scattering, the ratio $m_{\perp}/m_{\parallel} = 1.25$ corresponds to a slightly flattened mass

ellipsoid. This isotropic scattering is confirmed over a wide temperature interval by the constant ratios of the galvanomagnetic coefficients which characterize the galvanomagnetic properties of tellurium. Within this range of temperature the thermal scattering is replaced by scattering from the impurities. The ratio $m_{\perp}/m_{\parallel} = 1.2 \pm 0.2$ of the effective masses which

determine the axes of the ellipsoid of revolution has a similar value.

The experimentally and theoretically determined dependences of the ratio

$Q_{3311} Q_{33}/R_1^2$ on the absolute temperature T agree fairly well up to 4°K , but deviate strongly at lower temperatures. It is found that

$m_{\perp} = 0.43 m_0$ and $m_{\parallel} = 0.35 m_0$. The ratios Q_{1111}/Q_{1133} ,

$Q_{1122} \cdot Q_{33}/Q_{3311} \cdot Q_{11}$ and Q_{1313}/Q_{3311} of the experimental coefficients of

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The galvanomagnetic properties ...

S/181/62/004/012/035/052
B125/B102

the galvanomagnetic tensor differ from the corresponding theoretical values, which is due to the nonuniform carrier distribution in the specimens investigated and to fluctuations of the relative values of the longitudinal resistance of various tellurium specimens under investigation. There are 15 figures and 2 tables.

ASSOCIATION: Institut poluprovodnikov AN SSSR, Leningrad (Institute of Semiconductors AS USSR, Leningrad)

SUBMITTED: July 13, 1962

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24,7600 (1035, 1043, 1158)

S/181/60/002/011/034/042
B006/B060

AUTHORS: Parfen'yev, R. V., Farbshteyn, I. I., and Shalyt, S. S.

TITLE: Galvanomagnetic Properties of Tellurium. II. The Effect of Heat Treatment Upon the Temperature Course of Mobility

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 11, pp. 2923-2928

TEXT: The concentration dependences of the hole mobility at 77°K in tellurium, as found by several authors, exhibit an exceedingly large spread. The authors of the article under consideration tried to explain the observed anomalous spread of mobility, and, above all, the extremely uncertain temperature course of mobility by ascribing them in the first place to the variety of impurity concentration (which shows in the large spread of concentration dependence of the hole mobility) of the specimens investigated. The effect of heat treatment upon the galvanomagnetic properties was thoroughly examined, and a very considerable influence upon electric resistivity and Hall constant was also observed. The heat treatment took place at 320°C over 70 hours. Fig. 2 illustrates the effect of the heat treatment upon ρ and R, and Fig. 3 upon the Hall mobility R/ρ

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