

TIMOFEYEVA, A.G.; GUSAKOVA, Ye.G.; SHPINGIS, A.A.

Comparative study of steroid transformation by some molds of the
imperfect group. Izv. AN SSSR. Ser. biol. no.4:574-581 J1-Ag '61.
(MIRA 14:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy
institut im. S.Ordzhonididze. (MOLDS (BOTANY)) (STEROIDS)

SHPINKA, Stanislav; VIDRMA, Yaroslav

See you soon, friends. Za rul. 17 no.4:16 Ap '59. (MIRA 12:6)

(Russia--Relations (General) with Czechoslovakia)

SPINKA, J.

Stable garlic preparations. J. Spinka and J. Stampier (U.S.P. 2,618,561, 18.11.52. Appl. 20 11.48. Czechosl. 10.1.48).—A stable garlic prep. of high alkyl sulphide content is produced by crusting garlic bulbs, subjecting to enzymic fermentation during 5–8 days at 25–35° in a solution of glucose 0.5, NH_4 phosphate 0.08, and As_2O_3 3–8 or citric acid 1–5%, then filtering off the solids, and adding conc. aq. Na_2SiO_3 (stabiliser).

Chem. Abstr. 47: 11,615 (1957).

SEFIN'KOV, Ivan Fedorovich; BULAYEV'OV, S., red.

[New technology in sugar beet growing] Kant kyzylchasyn
osturuunun zhany tekhnologiyasy. Frunze, Kyrgyzstan MAM-
lekettik basmasy, 1963. 91 p. [in Kirghiz]

(MIRA 17:10)

MIRYASOV, N.Z.; PINCHUK, A.A.; SNYTKIN, B.V.; SHPIN'KOV, N.I.

Unit for producing ferromagnetic films by vaporization in a high vacuum. Prib. i tekhn. eksp. 10 no.5:194-197 S-O '65.

(MIRA 19:1)

1. Fizicheskii fakul'tet Moskovskogo gosudarstvennogo universiteta. Submitted July 15, 1964.

SHPI NYAK, N.

Pipe makers of the Ural region study the experience of innovators.
Sots.trud 4 no.9:108-110 S '59. (MIRA 13:1)

1. Rukovoditel' gruppy normativno-issledovatel'skoy laboratorii
organizatsii proizvodstva i truda pervoural'skogo Novotrubnogo
zavoda.

(Ural Mountain region--Pipe, Steel)

I 8620-66

ACC NR: AP5027032

SOURCE CODE: UR/0120/65/000/005/0194/0197

AUTHOR: Miryasov, N. Z.; Pinchuk, A. A.; Snytkin, B. V.; Shpin'kov, N. I.

ORG: Physics Faculty, MGU (Fizicheskiy fakul'tet MGU)

TITLE: A device for ferromagnetic film production by high vacuum evaporation

SOURCE: Pribory i tekhnika eksperimenta, no. 5, 1965, 194-197

TOPIC TAGS: high vacuum, ferromagnetic film, vacuum pump, vacuum chamber

ABSTRACT: Vacuum evaporation chambers, intended for the production of ferromagnetic films, must be placed at considerable distances from vacuum pumps because such pumps are usually made of ferromagnetic materials which influence in an unpredictable way the magnitude and configuration of the magnetic fields used during condensation. However, long vacuum tubing significantly reduces the resulting vacuum. Consequently, the authors designed a unit capable of rotating the sample under vacuum, since it was shown earlier (D. O. Smit, J. Appl. Phys., 1961, 32, 705) that a rapidly moving support makes possible the production of films of complex composition and definite magnetic properties. In addition, because of consecutive pumping, a double vacuum chamber, and heat resistant gaskets with low vapor pressure, the device is capable of reaching $1.0 \cdot 10^{-7}$ Torr. The pumping is carried out by diffusion pumps using VM-1 oil without nitrogen traps. Uniform vertical (horizontal) magnetic fields are created by Helmholtz coils 70 cm (170 cm) in diameter. The maximum field is 450 Oe (~ 100 Oe). Orig. art. has: 3 figures.

Card 1/2

UDC: 539.234:538.221

B-
34

L 8620-66

ACC NR: AP5027032

SUB CODE: IE,EM / SUBM DATE: 15Jul64 / ORIG REF: 003 / OTH REF: 002

Card 2/2 jrn

ACC NR: AP7001393

(N)

SORUCE CODE: UR/0413/66/000/021/0062/0062

INVENTOR: Treskin, S. A.; Shpirnov, V. A.; Gavrilov, N. G.

ORG: none

TITLE: Method of applying a conductive metal coating on a glass-insulated microwire. Class 21, No. 187860 [announced by the Scientific Research Institute of Non-destructive Testing (Nauchno-issledovatel'skiy institut introskopii)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 62

TOPIC TAGS: microwire, glass insulated microwire, metal coated microwire, gold coated microwire, *glass coating*

ABSTRACT: This Author Certificate introduces a method of forming a conductive metal coating on a glass-insulated microwire. To produce good quality coating along the whole length of a wire, the later is first passed through a capillary tube filled with a chemically inert metal liquid, such as gold, and then through a furnace in which the metal is sintered to the glass. [ND]

SUB CODE: 13/ SUBM DATE: 12Jul65/ ATD PRESS: 5110

Card 1/1

UDC: 621.315.36

PODSKREBOVA, A.; SHPIRO, P.

Centralized operation of motorbuses and taxicabs. Avt. transp.
43 no.11:24-26 N '65. (MIRA 18:12)

1. Upravlyayuchshiy Sochinskim avtotrestom (for Podskrebova).
2. Nachal'nik tsentral'noy dispetcherskoy sluzhby Sochinskogo avtotresta (for Shpiro).

SHPIRO, G.S., kand.tekhn.nauk

Calculating elastic thin axisymmetric shells considering them as
flat beams supported by elastic foundations. Trudy TSNIS no.4:56-60
' 52. (MIRA 12:1)

(Elastic shells and plates)

SHPIRO, G.S., kand. tekhn. nauk

Using the method of additional loads in calculating beams. Trudy
TSNIS no.4:61-78 ' 52. (MIRA 12:1)
(Girders)

SHPIRO, G.S., kand.tekhn.nauk

Calculating flat beams of high curvature and with nonsymmetrical
cross section. Trudy TSNIS no.4:79-88 '52. (MIRA 12:1)
(Girders)

SHPIRO, G.S., kandidat tekhnicheskikh nauk

Experience in using reinforced concrete screw piles. Transp.stroi
5 no.5:11-15 J1'55. (MIRA 8:12)

(Piling (Civil engineering))

BIBINA, N.M., inzhener; SHPIRO, G.S., kandidat tekhnicheskikh nauk.

Experience in using screw piles for bridge support foundations.

Trudy TSNIS no.13:5-54 '55. (MLRA 9:6)

(Piling (Civil engineering)) (Bridges--Foundations and piers)

KUZNETSOV, Vasilii Ivanovich, professor, doktor tekhnicheskikh nauk; SHPIRO,
G.S., kandidat tekhnicheskikh nauk, redaktor; VERINA, G.P., tekhnicheskii redaktor.

[Static calculations of the elements of railroad ballast section]
Statiicheskii raschet elementov verkhnege stroeniia puti. Moskva,
Gos. transp. zhel-dor. izd-vo, 1956. 107 p. (MLRA 9:6)
(Railroad engineering)

DARKOV, Anatoliy Vladimirovich, professor, doktor tekhnicheskikh nauk;
KUZNETSOV, Vasilii Ivanovich, professor, doktor tekhnicheskikh
nauk; SHPIRO, G.S., kandidat tekhnicheskikh nauk, redaktor;
VERINA, G.P., tekhnicheskii redaktor

[Structural mechanics; the statics of structures] Stroitel'naiia
mekhanika; statika sooruzhenii. Izd. 5-oe, perer. Moskva, Gos.
transp. zhel-dor. izd-vo, 1956. 492 p. (MIRA 9:11)
(Statics) (Structures, Theory of)

KHLEBNIKOV, Ye.L. professor; ANDREYEV, O.V., kandidat tekhnicheskikh nauk;
 BEGAM, L.G., kandidat tekhnicheskikh nauk; BERG, O.Ya., kandidat
 tekhnicheskikh nauk; GAMAYUNOV, A.I., kandidat tekhnicheskikh nauk;
 DUCHINSKIY, B.N., kandidat tekhnicheskikh nauk; KAZEY, I.I., kandi-
 dat tekhnicheskikh nauk; DESOKHIN, B.F., kandidat tekhnicheskikh
 nauk; LUGA, A.A., kandidat tekhnicheskikh nauk; LYALIN, N.B., kandi-
 dat tekhnicheskikh nauk; MEL'NIKOV, Yu.L., kandidat tekhnicheskikh
 nauk; POL'YEVKO, V.P., kandidat tekhnicheskikh nauk; PROKOPOVICH, A.
 G., kandidat tekhnicheskikh nauk; STRELETSKIY, N.N., kandidat tekhnicheskikh nauk;
 TYULENEV, Ye.A., kandidat tekhnicheskikh nauk; KHROMETS,
 Yu.N., kandidat tekhnicheskikh nauk; SHELESTENKO, L.P., kandidat tekhnicheskikh nauk;
 SHPIRO, G.S., kandidat tekhnicheskikh nauk; YAROSHENKO,
 V.A., kandidat tekhnicheskikh nauk; ZELEVICH, P.M., inzhener; CHEGO-
 DAYEV, N.N.; BOBROVA, Ye.N., tekhnicheskiiy redaktor.

[Technical specifications for designing bridges and pipes for railroads of a normal gauge (TUPM-56). Effective July 1, 1957 by order of Ministry of Means of Communication and the Ministry of Transportation Construction, September 15, 1956] Tekhnicheskie usloviia proektirovaniia mostov i trub na zheleznykh dorogakh normal'noi kolei (TUPM-56). Vvedeny v kachestve vremennykh s 1 iulia 1957 g. prikazom Ministerstva putei soobshcheniia i Ministerstva transportnogo stroitel'stva of 15 sentyabrya 1956 g. No.250/TsZ/213. Moskva, Gos.transp.zhel-dor.izd-vo, 1957. 221 p.
 (MIRA 10:5)

1. Russia (1923- U.S.S.R.), Ministerstvo putei soobshcheniya.
 (Railroad bridges--Design)

DARKOV, A.V., prof., doktor tekhn.nauk; MITROPOL'SKIY, N.M., prof.,
dokt.tekhn.nauk; SHPIRO, G.S., kand.tekhn.nauk; DIDOV, B.V., prof.,
retsenzent; BYCHKOV, P.G., dotsent, retsenzent; ITSKOVICH, G.M.,
nauchnyy red.; ANOSHINA, K.I., red.izd-va; TITOVA, L.L., tekhn.
red.

[Strength of materials] Soprotivlenie materialov. Moskva, Gos.
izd-vo "Vysshaia shkola," 1959. 741 p. (MIRA 13:4)
(Strength of materials)

SHPIRO, G.S., kand. tekhn. nauk

Investigating high pilework systems. Transp. stroi. 9 no. 4:44-46
Ap '59. (MIRA 12:6)

(Piling (Civil engineering))

ZAVRIYEV, K.S., kand.tekhn.nauk; KRYUKOV, Ye.P., kand.tekhn.nauk;
SHPIRO, G.S., kand.tekhn.nauk; KARAMYSHEV, I.A., red.;
BOBKOVA, Ye.N., tekhn.red.

[Study of the strength of the foundation of contact networks supports] Issledovanie nesushchei sposobnosti fundamentov opor kontaktnoi seti. Moskva, Vses.izdatel'sko-poligr. ob"edinenie m-va putei soob., 1960. 215p. (Babushkin. Vsesoiuznyi nauchno-issledovatel'skii institut transportnogo stroitel'stva. Trudy, no.39) (MIRA 14:7)

(Electric lines--Poles)

(Electric railroads==Wires and wiring)

SILIN, K.S., inzh.; ZAVRIYEV, K.S., kand.tekhn.nauk; SHPIRO, G.S.,
kand.tekhn.nauk

Designing columnal shell foundations for working loads. Transp.
stroi. 10 no.7:42-46 J1 '60. (MIRA 13:7)
(Bridges--Foundations and piers)

BIBINA, N.M., inzh.; TOMAYEVA, N.I., inzh.; SHPIRO, G.S., kand.tekhn.nauk

Testing the high pile grillage of a city bridge. Trudy TSNIIS
no.45:92-102 '62. (MIRA 15:9)
(Bridges--Foundations and piers)

KRYUKOV, Ye.P., kand.tekhn.nauk; SHPIRO, G.S., kand.tekhn.nauk

Determining stresses in radial sections of the shells of columnar
foundations. Transp. stroi. 12 no.11:44-47 N '62. (MIRA 15:12)
(Elastic plates and shells) (Bridges—Foundations and piers)

SHUSHANIYA, V.R.; SHPIRO, G.S., kand. tekhn. nauk, dots., otv. red.

[Lectures on the strength of materials] Lektsii po sopro-
tivleniiu materialov. Moskva, Izd-vo Mosk. in-ta stali.
Pt.1. [Introduction] Vvedenie. 1962. 39 p.
(MIRA 16:7)

(Strength of materials)

7

DARKOV, Anatoliy Vladimirovich; KUZNETSOV, Vasilii Ivanovich; Prinipali
uchastiye: SINEL'NIKOV, V.V., doktor tekhn. nauk, prof.; KLEYN,
G.K., doktor tekhn. nauk, prof.; SHPIRO, G.S., kand. tekhn. nauk;
BYCHKOV, D.V., prof., retsenzent; REKACH, V.G., prof., retsenzent;
BOCHAROVA, Yu.F., red. izd-va; GOROKHOVA, S.S., tekhn. red.

[Structural mechanics; statics structures] Stroitel'naiia mekhanika;
statika sooruzhenii. Moskva, Vysshaiia shkola, 1962. 742 p.
(MIRA 16:5)

(Strains and stresses)

ITSKOVICH, G.M.; VINOKUROV, A.I.; Primal uchastiye:
MININ, L.S.; MAKUSHIN, V.M., laureat Leninskoy premii,
prof., retsenzent; SHPIRO, G.S., kand. tekhn.nauk, nauchn.
red.; BORODINA, N.N., red.; CHIZHEVSKIY, E.M., tekhn.red.

[Manual for solving problems on the strength of materials]
Rukovodstvo k resheniu zadach po soprotivleniiu materialov.
Moskva, Rosvuzizdat, 1963. 351 p. (MIRA 16:8)
(Strength of materials--Problems, exercises, etc.)

DARKOV, Anatoliy Vladimirovich, prof., doktor tekhn. nauk; SHPIRO,
Geyman Simonovich, kand. tekhn. nauk; Prinsipal uchastnye
ITSKOVICH, G.M., inzh.

[Strength of materials] Soprotivlenie materialov. Moskva,
Vysshaya shkola, 1965. 762 p. (MIRA 18:2)

POPOV, O.A., inzh.; GLOTOV, N.M., kand.tekhn.nauk; ZAVRIYEV, K.S., kand.tekhn.nauk; SHPIRO, G.S., kand.tekhn.nauk

Concerning the revision of the chapter "Pile foundations from consolidating piles" of the Construction Norms and Regulations. Transp.stroi. 15 no.10:46-47 0 '65.

(MIRA 18:12)

1. Gosudarstvennyy ordena Trudovogo Krasnogo Znameni proyektno-izyskatel'skiy institut po proyektirovaniyu bol'shikh mostov (for Popov). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut transportnogo stroitel'stva Ministerstva transportnogo stroitel'stva (for Zavriyev). 3. Vsesoyuznyy zaobnyy politekhnicheskiy institut (for Shpiro).

"Non-Ferrous and Rare Metals in the War
Preparations of the Capitalist Nations," (BK)
Reviewed by Timashov, A. K. Tsvet. Met.,
14, No. 4-5, 1939

Report U-1506, 4 Oct. 1951

SHINT, A.

Mineral resources and the war. Leningrad, Politizdat, 1941. 276 p. (Institut mirovogo khoziaistva i mirovoi politiki Akademii nauk SSSR)

SHPART, A.IU.

SHPART, A.IU.

Izmeneniia v ekonomike syr'ia i topliva vtoroi mirovoi voine. Moskva,
AN SSSR, 1946. 319 p. (Akademiia Nauk Soiuza SSR. Institut mirovogo
khoziaistva i mirovoi politiki.) DLC: D800.S5

InU MH NFrnUN NjP NN NNC

SO: LC, Soviet Geography, Part I, 1951, Uncl.

SHPIRT, A.

Labor in colonial Africa ("Social aspects of industrialization
and the growth of cities in Africa south of the Sahara Desert."
Reviewed by A. Shpirt. Sots.trud no.2:153-159 F '57. (MLRA 10:5)
(Africa--Labor and laboring classes)

AUTHOR: Shpirt, A.Yu., Professor SOV/26-58-12-9/44

TITLE: The Looting of the Natural Riches of Colonial Africa (Ras-khishcheniye prirodnykh bogatstv kolonial'noy Afriki)

PERIODICAL: Priroda, 1958, Nr 12, pp 51-58 (USSR)

ABSTRACT: The article, mainly based on foreign sources, attempts to prove that since World War II, the natural riches of the African colonies of West European states have been depleted and exhausted in an irresponsible way, without consideration for the economic future of these colonies, i.e. merely for the financial benefits of West European and American corporations. There are 5 photos and 12 references, 3 of which are English, 3 French, 1 Ghanaian and 5 Soviet.

ASSOCIATION: Institut vostokovedeniya AN SSSR, Moskva (The Institute of Oriental Studies of the AS USSR, Moscow)

Card 1/1

DANTSIG, B.M., otv. red.; SHPIRT, A.Yu., otv. red.; YASTREBOVA, I.P.,
otv. red.; DIZHUR, I.M., red. izd-va; ZOTOVA, Yu.N., red. izd-
va; YUREVICH, L.I., red. izd-va; BERESLAVSKAYA, L.Sh., tekhn.
red.

[Economic conditions of Asian and African countries in 1959] Eko-
nomicheskoe polozhenie stran Azii i Afriki v 1959 g. Moskva,
Izd-vo vostochnoi lit-rv. 1961. 509 p. (MIRA 14:9)

1. Akademiya nauk SSSR. Institut narodov Azii.
(Africa—Economic conditions) (Asia—Economic conditions)

SHPIRT, Aleksandr Yulianovich; BACHININ, G.I., red.; YERKHOVA,
Ye.A., tekhn. red.

[Economy of African countries] Ekonomika stran Afriki;
kratkii ocherk. Moskva, Izd-vo IMO, 1963. 302 p.

(MIRA 17:1)

(Africa--Economic conditions)

69714

SOV/81-59-9-30772

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 9, p 102 (USSR)

AUTHORS: Kindyakov, P.S., Katlinskiy, V.M., Shpirt, M.Ya.

TITLE: On the Mechanism of Chlorination of Elemental Selenium and Tellurium and Some Selenides in an Aqueous Medium

PERIODICAL: Tr. Mosk. in-ta tonkoy khim. tekhnol., 1958, Nr 7, pp 158 - 164

ABSTRACT: The oxidation of Se, Cu_2Se , Ag_2Se and Te powders by a HOCl solution obtained by the reaction $2Cl_2 + Bi_2O_3 + H_2O = 2HOCl + 2BiOCl$, has been studied. The experiments were carried out at $25^\circ C$ in a vessel with a mixer. In the oxidation of Se and selenides H_2SeO_3 and H_2SeO_4 are formed, at the same time the ratio $Se^{6+} : Se^{4+}$ varies from 1 to 3 in the case of retardation of the revolution of the mixer. The darkening of the reaction vessel does not affect the reaction rate. The reaction of Te with HOCl produces mainly H_2TeO_4 . It has been shown that only HOCl from all possible oxidants in the Cl- H_2O system interacts with Se. Oxidation takes place in 2 stages: $Se^0 \rightarrow Se^{4+}$ (heterogeneous reaction) and $Se^{4+} \rightarrow Se^{6+}$ (homogeneous reaction).

Card 1/1

V. Rosolovskiy

86231

Determination of Germanium and Gallium in
Coals by the Spectroscopic Methods

S/032/60/026/008/029/046/XX
B020/B052

arc (generator ПС-39 (PS-39) or ДГ-1 (DG-1) with a current of 8 a. The time of exposure was 60 seconds. Bands used for the analysis: Ge 2651.18 and Ga 2943.64 A, reference bands: Sn 3034.12 and 2839.99 A. With a germanium concentration of up to 0.003%, the error is 10-12%, with an equal gallium concentration it is 7.5 - 10%. Errors may be due also to the different macrostructure of standards and samples. The data of the table characterize the analogy of the results of analysis for coals of different types. From a comparison of the results obtained by analyzing initial raw materials, their products, and chemical and spectroscopic determinations it may be concluded that the error never exceeds 10%. The chemical determination of germanium was carried out by a method described by V. A. Nazarenko (Ref. 3), that of gallium by a method described by V. S. Saltykova and Ye. A. Fabrikova (Ref. 4). There are 1 table and 4 Soviet references.

ASSOCIATION: Institut goryuchikh iskopayemykh Akademii nauk SSSR
(Institute of Combustible Minerals of the Academy of Sciences
USSR)

Card 2/2

81829

S/020/60/134/005/016/025
B016/B054

52610

AUTHORS:

Sendul'skaya, T. I. and Shpir, M. Ya.

TITLE:

Coprecipitation of Germanium Microquantities With Iron Hydroxide

PERIODICAL:

Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 5.
pp. 1108-1110

TEXT: The authors give a review of the results of recent investigations explaining the coprecipitation of various metals with insoluble hydroxides by the ion-exchanging properties of the latter. They find that in the case of an adsorption- or ion-exchanging coprecipitation mechanism full precipitation of the metals is attained within a relatively long time at ratios $Me : Fe \leq 1 : 1000$ (Ref. 2), the completeness of precipitation being reduced by the increase in concentration of a foreign electrolyte. There are no data published on the coprecipitation mechanism and the influence of various factors on the completeness of precipitation of germanium microquantities together with iron hydroxide. The present paper presents investigation results on the coprecipitation of germanium by

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Card 1/3

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Coprecipitation of Germanium Microquantities
With Iron Hydroxide

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the hydroxide of trivalent iron in the solution as germanic acid, as anion $HGeO_3^-$ and, possibly, as $Ge_5O_{11}^{4-}$. The precipitation was studied as dependent on temperature, time, time of contact between precipitate and solution, the quantity of hydroxide used, and the pH-value of the solution. Tables 1 and 2 give data of the influence of temperature and contact time, showing that the completeness of germanium coprecipitation is equivalent in the temperature range between 20 and 80°C, and is already attained after 2 minutes of contact between solution and precipitate. Ge is not dissolved again, even after a long contact between solution and precipitate. Fig. 2 shows that a complete coprecipitation of germanium together with the hydroxide is already attained at Ge : Fe = 1 : 20 (Ge concentration 1 μ /ml). A reduction of this ratio does not lead to the dissolution of Ge. An addition of ammonium sulfate on the one hand does not reduce the degree of Ge precipitation at a low Ge : Fe ratio, but on the other hand increases the degree of precipitation at higher Ge : Fe ratios. This is probably due to improved coagulation. The authors conclude from Fig. 2 that a practically complete coprecipitation of Ge together with the hydroxide can be attained at a Ge concentration of 0.01 μ /ml and a ratio

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Coprecipitation of Germanium Microquantities
With Iron Hydroxide

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of Ge : Fe=1 : 1000 in a 2% ammonium sulfate solution. Thus, the use of iron hydroxide may serve as a preliminary concentration method (by about the 100-fold) in the analysis of strongly diluted solutions. Fig. 3 shows the dependence of Ge coprecipitation on the pH of the solution. The precipitation is complete between pH 6 and 9.5. The authors conclude from the results that the germanic acid is not adsorbed by the iron hydroxide, but that the iron germanates, insoluble at pH 6 - 9.5, are coprecipitated together with the hydroxide. The authors mention methods by V. A. Nazarenko and others (Ref. 7). The instrument ФЭКМ -57 (FEKM-57) and a potentiometer of the type ЛП-5 (LP-5) were used for the colorimetric determination. The authors mention papers by M. N. Kurbatov and V. I. Plotnikov. There are 3 figures, 2 tables, and 7 references: 4 Soviet, 2 US, and 1 French.

ASSOCIATION: Institut goryuchikh iskopayemykh Akademii nauk SSSR
(Institute of Mineral Fuels of the Academy of Sciences, USSR)

PRESENTED: June 1, 1960, by S. I. Vol'fkovich, Academician

SUBMITTED: May 26, 1960

Card 3/3

25861
S/020/61/139/004/021/025
B*03/B220

Sorption of germanium on aluminum ...

(b) corresponds to the Ge content in the solution sample tested. Tests were made as follows: NH_3 or alkali were added dropwise to the mixture of Ge and Al solutions. The resulting precipitate of aluminum hydroxide sorbed the Ge from the solution. The quantity of coprecipitated Ge was also calculated from the content in the residual solution. The solution as well as the hydroxide after dissolution in 4 N HCl were analyzed according to V. A. Nazarenko & al. (Zav. lab., No. 1, 9 (1958)). The pH was measured by means of an JM-5 (LP-5) potentiometer. Ad (1) and (2): It was stated that Ge sorption was 99% of the initial amount at a contact time between 5 min and 48 hr, and a temperature between 20 and 80°C (contact time 5 min). All further tests were made at room temperature and a contact time of 24 hr. Ad (3): Maximum sorption occurred with a pH between 6 and 9.6 (precipitation with NH_3). Complete precipitation of aluminum hydroxide was obtained at lower pH values than in case of Ge. First of all, $\text{Al}(\text{OH})_3$ begins to dissolve with increasing alkalinity. At pH=9.6, about 20% of Al was dissolved, whereas Ge was practically not dissolved. Ad (4): At pH=11 (dissolution with NaOH), 70% Al and only

Card 2/5

25861

S/020/61/139/004/021/025

B:03/B:20

Sorption of germanium on aluminum ...



This continues as long as the existing Al is sufficient to form the scarcely soluble germanate. A second break in the curve indicates a deficiency of Al in relation to its quantity contained in the germanate. Consequently, the quantity of Ge in the solution begins to increase rapidly in dependence on the decrease of $Al_2O_3 : GeO_2$. Thus, this ratio at the break corresponds to the ratio of the two components in the germanate, which is formed most likely, i. e., 1.5. It is supposed that the further sorption of Ge at a ratio < 1.5 may be explained by formation of a better soluble germanate of higher Ge content. The following reaction scheme is suggested: $1.5 Al_2O_3 \cdot GeO_2 \cdot nH_2O + 2H_2GeCl_3 \longrightarrow$
 $\rightarrow 1.5 Al_2O_3 \cdot 3GeO_2 \cdot nH_2O + q H_2O$. This reaction is said to be complete merely with a high excess of $GeO_2 (GeO_2 : Al_2O_3 > 3)$ in the solution. If Ge is available in concentrations below 0.3 mg/l, high $Al_2O_3 : GeO_2$ ratios resulting in the formation of solid solutions with low concentration of germanate in $Al(OH)_3$ have to be used for the sorption of Ge from the solution.

Card 4/5

25861
S/020/61/139/004/021/025
B103/B220

Sorption of germanium on aluminum ...

Weight ratio Al : Ge	1	5	100	200	2000	5000	10 000
Ge concentration, mg/l	100	30	10	1	0.1	0.02	0.01
Ge precipitation, %	99	99	99	99	96	97	96

It follows that Ge can be precipitated almost completely on aluminum hydroxide (pH 7 - 8; 2% $(\text{NH}_4)_2\text{SO}_4$), even if the Ge concentration is 0.01 mg/l corresponding to $\text{M Al}_2\text{O}_3 : \text{MGeO}_2 \gg 13\ 000$. A better coagulation of the aluminum hydroxide is obtained by adding an electrolyte to the solution. The sorption is practically not affected by salts such as NH_4Cl , $(\text{NH}_4)_2\text{SO}_4$, or NaCl . There are 4 figures and 7 references: 4 Soviet-bloc and 3 non-Soviet-bloc. The reference to the English-language publication reads as follows: K. Kraus (Second United Nations International Conference on the Peaceful Uses of Atomic Energy, A. Conf. 15 (p), 1832, USA, June 1958.)

SUBMITTED: April 25, 1961
Card 5/5

Sorption of germanium by Al_2O_3 ,...

S/078/62/007/002/015/019
B127/B110

this concentration, the sorption of Ge_2O_3 was only 1.6 g, that of Al_2O_3 was 0.16 g per 100 g of sorbent. A decrease in the sorptive power of Fe and Al with a pH reduction is explained by the separation of Ge as an anion of germanic acid. A decrease in pH reduces the anion concentration considerably. With Fe_2O_3 , citric, oxalic, and tartaric acids only inhibit sorption owing to complex formation, whereas Na_2S has a poisoning effect due to FeS formation. Greater sorptive power of MgO as compared to that of Fe_2O_3 , is assumed to be due to its higher solubility: dissolved Mg^{2+} form insoluble germanates. Thus, sorption is not restricted to the surface, as it is with Fe_2O_3 . There are 2 figures and 2 Soviet references.

SUBMITTED: July 11, 1961

Card 2/2

TANANAYEV, I.V.; SHPIRT, M.Ya.

Coprecipitation of germanium with hydroxides of trivalent metals.
Zhur.neorg.khim. 7 no.5:1174-1181 My '62. (MIR^a 15:7)
(Germanium) (Hydroxides) (Precipitation (Chemistry))

KINDYAKOV, P.S. [deceased]; SHPIRT, M.Ya.; KATLINSKIY, V.M.

Methods for determining Cl_2 , Cl^- , HOCl , and H^+ present simultaneously.
Zhur.anal.khim. 17 no.1:97-101 Ja-F '62. (MIRA 15:2)

1. M.V.Lomonosov Moscow Institute of Fine Chemical Technology.
(Chlorine--Analysis) (Chlorine compounds)

SHPIRT, M.Ya.; SENDUL'SKAYA, T.I.; TANANAYEV, I.V.

Coprecipitation of germanium with silicic acid. Zhur. neorg.
khim. 8 no.11:2611-2613 N '63. (MIRA 17:1)

1. Institut goryuchikh iskopayemykh.

KOPPELIT, V.G.; TANABAYASHI, I.V.; SHPIRT, M.Ya.

Interaction of germanium dioxide with the oxides of aluminum,
iron, silicon, calcium, and magnesium on heating. Zhur. Neorg.
khim. 9 no.8:1936-1938 1964.

(NOR. 17:11)

STRENGTH, M. 14

1957. Chair General Surgery Moscow Med. Inst., Min. Public Health USSR, Moscow, U.S.S.R.
Citrovnik, -ed, 1957. "Endometrium of the Female," *Endocrinology*, No. 3, 1957.

-SHPIRT, M. Yu.

SHPIRT, M. Yu.

Two cases of cardiac wounds. Khirurgiia no.5:70 My '54. (MLRA 7:7)

1. Iz kafedry obshchey khirurgii Moskovskogo instituta zdravo-
okhraneniya RSFSR na baze bol'nitsy imeni Ostroumova.

(HEART, wounds and injuries,

*case reports)

(WOUNDS AND INJURIES,

*heart, case reports)

~~SECRET~~
SHPIRT, M.Yu., kandidat meditsinskikh nauk

Cancer of the wall of a fistula in chronic osteomyelitis. Ortop.
travm. i protez. no.2:76-78 Mr-Ap '55. (MLBA 8:10)

1. Iz kafedry obshchey khirurgii (zav.-zasl.deyatel' nauki prof.
I.L.Fayerman Moskovskogo meditsinskogo instituta Ministerstva
zdravookhraneniya RSFSR na baze bol'nitsy im. A.A.Ostroumova
(glavnyi vrach-Ya.S.Shipotovskiy)

(OSTEOMYELITIS, complications
cancer of wall of fistula)

(FISTULA, etiology and pathogenesis
osteomyelitis, chronic, with cancer of wall of fistula)

(EXTREMITIES, neoplasms,
wall of fistula in chronic osteomyelitis)

SHPIRT, Ya.Yu.; LAVROVA, Ye.V.

Use of ecmonovocillin for preventing pneumonia in acute catarrh of the upper respiratory tract and in influenza in children.
Antibiotiki 1 no.6:34-36 N-D '56. (MLRA 10:2)

1. Detskaya konsul'tatsiya i poliklinika Okruzhnoy moskovskoy dorogi.
(PNEUMONIA, prevention and control,
procaine penicillin with ecmoline, prev. of pneumonia
in common cold & influenza (Rus))
(COMMON COLD, therapy,
procaine penicillin with ecmoline, prev. of pneumonia (Rus))
(INFLUENZA, therapy,
same)
(ANTIBIOTICS, therapeutic use,
ecmoline with procaine penicillin, prev. of pneumonia in
common cold & influenza (Rus))
(PENICILLIN, related compounds,
procaine penicillin with ecmoline, prev. of pneumonia in
common cold & influenza (Rus))

SHPIRT, Ya. Yu (Prof.)

"Prophylactic Use of Emonovocillian Against Influenza and Acute Catarrh of Upper Respiratory Tracts,"

p. 357 Ministry of Health USSR Proceedings of the Second All-Union Conference on Antibiotics, 31 May 1957. p. 405, Moscow, Medgiz, 1957.

SHPIRT, Ya.Yu., prof.; LAVROVA, Ye.V.; LITVINOVA, N.N.

Prevention of focal pneumonia during influenza and acute catarrh of the upper respiratory tract in children. Sov.zdrav. 16 no.12: 35-39 D '57. (MIRA 11:1)

1. Iz detskoy konsul'tatsii i polikliniki Okrzhno Moskovskoy dorogi.

(INFLUENZA, in inf. & chold

compl., focal pneumonia, prev., ekmonovocillin (Rus))

(ANTIBIOTICS, ther. use

ekmonovocillin in prev. of focal pneumonia in influenza & upper resp. tract infect. in child. (Rus))

(PNEUMONIA, in inf. & chold.

prev. in influenza & upper resp.tract infect., ekmonovocillin (Rus))

SHPIRT, Ya. Yu., prof.

Atherosclerosis and vitamins. Zdorov'e 6 no.1:21-23 Ja '60.
(MIRA 13:4)

(ARTERIOSCLEROSIS)

(VITAMINS)

SHPIRT, Ya.Yu., prof.

Atherosclerosis and vitamins. Zdorov'ie 6 no.6:31 Je '60.
(MIRA 13:7)

(ARTERIOSCLEROSIS)

(VITAMIN THERAPY)

SHPIRT, Ya. Yu., (USSR)

"Vitamins A and F and
Arteriosclerosis."

Report presented at the 5th Int'l. Biochemistry
Congress, Moscow, 10-16 Aug 1961.

SHPIRT, Ya.Yu.; DAVIDENKOVA, I.M.; SEMAYUGINA, A.I.

Vitamins A and E in atherosclerosis. Study Inst. Phys. i
eksp. kard. AN Gruz. SSR. 107-110 (MIRA 1787)

1. Tsentral'naya bol'nitsa Ministerstva zdorovokhraneniya
RSFSR, Moskva.

ORLOVSKIY, Z.A., doktor tekhn. nauk; SKIRDOV, I.V., kand. tekhn. nauk;
KULIKOVA, G.P.; SHPIRT, Ye.A.

New materials for pneumatic aerators. Vod. i san. tekhn. no.11:
1-3 N '65. (MIRA 18:12)

ACC NR: AP6036064

(A, N)

SOURCE CODE: UR/0432/66/000/005/0037/0039

AUTHOR: Shprits, E. I.; Flon, V. S.; Bil'ov, P. D.

ORG: none

TITLE: A device for the digital print out of parameters

SOURCE: Mekhanizatsiya i avtomatizatsiya upravleniya, no. 5, 1966, 37-39

TOPIC TAGS: printing machinery, digital system, computer output unit

ABSTRACT: A digital printout device used in conjunction with the BNP-20 high speed typewriter is described. The device has been used in the control system for the steam turbine generator of the Staro-Beshevsk State Regional Electrical Power Station. Paper tape with a width of 80 mm is used to record parameters which are entered in two columns in order of increasing numbers. The left column records parameters which deviate from the norm while the right column periodically records an assigned group of parameters. The time is recorded above the parameter column. Each line shows the parameter number (from 000 to 777 using a code with base 8) and a value of the parameter (using a decimal code from 000 to 999). The parameters which have deviated are recorded while those falling within the permissible range of values are omitted. In order to save time and to decrease the dimensions of the form, the deviated parameters can be recorded without providing empty spaces for the omissions. When compiling re-

UDC: 681.142.62

Card 1/2

SHPIRTUS, YE. M.

PA 7/49T75

USSR/Mining Methods
Efficiency, Industrial

Aug 48

"The Productivity of Miners Working Sloping and In-
clined Veins at Donbass Mines," N. N. Ignatov,
Ye. M. Shpirtus, Engineers, 3 1/2 pp

"Ugol." No 8 (269)

Article by A. M. Nadysh on this subject appeared in
"Ugol." No 2, 1948. Nadysh concluded that output
on inclined seams was higher than on vertical ones
(by 36 - 50% for workers as a whole) and that this
should be taken into account when opening new pits.
Ignatov and Shpirtus maintain that these conclusions

7/49T75

USSR/Mining Methods (Contd)

Aug 48

are not borne out by prewar figures. Graphs and
tables illustrate their views, formed as a result
of studying over 200 pits.

7/49T75

SHPIS, K.

Isolation of autointerfering viruses from the serum of patients
with epidemic hepatitis. Vop.med.virus. no.9:26-31 '64.
(MIRA 18:4)

I. Iz instituta virusologii Berlinskogo universiteta imeni
Gumbol'ta.

SHPIB, K.V.; NESMEYANOV, A.N., akademik, glavnyy red.; TOPCHIYEV, A.V.,
akademik, red.; ISAKOVA, O.V., otvetstvennyy red.; LIKHTENSHTEYN,
Ye.S., otvetstvennyy red.; SHUNKOV, V.I., otvetstvennyy red.;
TIKHOMIROVA, Ye.V., red.izd-ya; POLESITSKAYA, S.M., tekhn.red.

Nikolai Mikhailovich Strakhov. Bibl.sost. K.V.Shpis. Moskva,
1957. 39 p. (Materialy k biobibliografii uchenykh SSSR. Seriya
geologicheskikh nauk, no.12) (MIRA 11:5)

1. Akademiya nauk SSSR.

(Bibliography--Strakhov, Nikolai Mikhailovich, 1900-)

SHCHERBINA, V.V.; SHPIS, K.V., NESMEYANOV, A.N., akademik, glav. red.;
TOPCHIYEV, A.B., akademik, zam. glav. red.; ISAKOVA, O.B., otvetstvennyy
red.; LIKHTENSHTAYN, E.S., otvetstvennyy red.; SHUNKOV, V.I.,
otvetstvennyy red.; MEL'NIKOVA, N.B., red. izd-va; POLESITSKAYA, S.M.,
tekhn. red.

Dmitrii Ivanovich Shcherbakov. Vstup. stat'ia V.V. Shcherbiny. Bib-
liogr. sost. K.V. Shpis. Moskva, 1958. 56 p. (Materialy k biobiblio-
grafii uchenykh SSSR. Seriya geologicheskikh nauk, no.13). (MIRA 11:7)

1. Akademiya nauk SSSR.

(Shcherbakov, Dmitrii Ivanovich, 1893-)

SHPIS, K.V.; NESMEYANOV, A.N., akademik, glavnyy red.; ISAKOVA, O.V.,
otv.red.; LIKHTENSHTEYN, Ye.S., osv.red.; SHUNKOV, V.I., osv.
red.; MEL'NIKOVA, N.B., red.izd-va

Anatolii Georgievich Betekhtin. Vstup. stat'ia T.N.Shadlun.
Moskva, Izd-vo Akad.nauk SSSR, 1959. 45 p. (Materialy k
biobibliografii uchenykh SSSR. Ser.geologicheskikh nauk,
no.14) (MIRA 13:2)
(Bibliography--Betekhtin, Anatolii Georgievich, 1897-)

PC SPISHEVSKIY, V.V.

A-2
2

Vinylation of polyhydric alcohols. Experiments on vinylation of mannitol. V. V. Spishevskiy and N. A. Obolonskaya (*J. gen. Chem. USSR*, 1950, 29, 671-677 (U.S. transl. 707-711)).—Reaction of mannitol with C_2H_2 in 10% KOH (usual vinylation conditions) gives a mixture of a cryst. triacetal, triethylidene-mannitol, and a liquid (vac. distilled), probably a complex mixture of mixed vinyl ether-acetals. Polymeric material, insol. in Et_2O but sol. in $EtOH-C_6H_6$, is also obtained. Possible structures of the complex materials formed are briefly discussed.

Mannitol (0.5 g.-mol.) in 10% KOH (500 ml.) is heated with C_2H_2 (added continuously so as to maintain a pressure of 10-12 atm.) in a bomb at 140-160° until the pressure no longer decreases. The resinous product is partly sol. in Et_2O . Distillation of the product or of its Et_2O -extract gives triethylidene-mannitol, $C_{11}H_{20}O_6$, m.p. 77° (uncorr.), b.p. 243-270°/1 atm., d_{20}^{20} 1.1242, n_D^{20} 1.4865. Other fractions obtained (b.p. 110-210°/3 mm.) are characterized by analyses (C and H) and i-val. E. S. STERN.

SHPISMAN, A.M.

Conference of nurses from the health resorts, sanatoriums, and rest homes of Siberia. Med. sestra 19 no.5:46-47 My '60.

APPROVED FOR RELEASE: 08/09/2001 (MIRA 13:9)
 CIA-RDP86-00513R001549930003-7
 (SIBERIA, WESTERN—NURSES AND NURSING)

SHPISMAN, I. I.

Shpisman, I. I. -- "The complex pathogenetic physiotherapy of ulcer disease,"

Sbornik trudov (Tomskiy obl. nauch.-issled. in-t fiz. metodov lecheniya i kurortologii), Vol. VI, 1949, p. 46-54

SO: u-5241, 17 December 1952, (Letopis 'zhurnal 'nyk' Statey, No. 26, 1947).

SHPIT, Yu., arkhitekter

New types of apartment houses to be built in White Russia. Zhil.
stroi. no. 1:6-12 Ja '51. (MIRA 14:2)
(White Russia--Apartment houses)

SHPITA, P.A.

Experimental myocardial infarction and the reaction of the intramural neural elements of the cardiac veins proper. Vrach.delo no.1:57-61 Ja '63. (MIRA 16:2)

1. Kafedra operativnoy khirurgii i topograficheskoy anatomii (zav. - prof. I.P. Kallistov) Kiyevskogo meditsinskogo instituta. (HEART—INFARCTION) (NERVES, CARDIAC)

SHPITALEV, Yu.P.

Modernization of the 1D6ZA mill for machining pipes with a 100
mm. diameter. Stan. i instr. 34 no.8:39 Ag '63. (MIRA 16:10)

S/214/62/000/004/004/004
I046/I246

AUTHOR: Shpital'naya, A.A.

TITLE: Determination of the true contour of the green coronal line. I. Doppler contour

SOURCE: Solnechnyye dannyye, no. 4, 1962, 81-91

TEXT: A detailed solution is given for the problem of separation between the contour of the green coronal line $\lambda 5302.86$ Å and the absorption line $\lambda 5302.31$ Å in the Doppler approximation, i.e., the following four parameters are determined: 1) the central intensity of the coronal contour; 2) the central intensity of the absorption contour; 3) the distance between the centers of the

Card 1/2

S/214/62/000/004/004/004
I046/I246

Determination of the....

coronal line and the absorption line; 4) the Doppler half-width of the coronal line. The merging of the two lines strongly interferes with determinations of equivalent width and radial velocities. There are 3 figures and 4 tables.

Card 2/2

SHPITAL'NAYA, A.A.

Formation of "dashes" in the D_3 helium line. Izv. GAO 24
no.1:60-72 '64. (MIRA 18:3)

SHPITAL'NIK, A.D.

Expansion of knitting machine production. Tekst.prom.
20 no.6:32-33 Je '60. (MIRA 13:7)
(Knitting machines)

IVANOV, Yu.V.; SHPITAL'NIK, A.D.

Prospects of the manufacture of machinery for the leather industry.
Kozh.-obuv.prom. 3 no.2:13-15 F '61. (MIRA 14:4)
(Leather industry--Equipment and supplies)
(Machinery industry)

SHpital'nik, S.S., st. nauchn. sotr.; TROFIMOV, I.I., st. nauchn. sotr.; LUPASHKO, Ye.I., red.; CHAYKO, I.V., red.; BERTSOVA, S., red.

[Bibliographical index of scientific papers of the Kishinev State Medical Institute, 1946-1961] Bibliograficheski ukazatel' nauchnykh rabot Kishinevskogo gosudarstvennogo meditsinskogo instituta, 1946-1961. Kishinev, Karta moldoveniaske, 1963. 435 p. (MOR 17:11)

1. Kishinev. Gosudarstvennyy meditsinskiy institut. Biblioteka. 2. Nauchnaya biblioteka Kishinevskogo meditsinskogo instituta (for Shpital'nik, Trofimova).

SHPITAL'NIK, V.L.

Use of lymphography in urology. Sov.med. 28 no.12:58-64 D '65.
(MIRA 18:12)

1. Urologicheskaya klinika (zav. - prof. I.M.Epshteyn) Moskov-
skogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova,
Moskva.

PICHENYUK, Ya.D.; RUSANOV, K.S.; KHARITONOV, M.I.; SHPITAL'NIKOV, A.G.

Roofing support by means of bolts. TSvet, met. 26 no.2:11-19
Mr-Ap '53. (MLRA 10:9)

(Mine timbering)

SHPITAL'NIKOV, A.G., kandidat ekonomicheskikh nauk.

Let us regulate work organization in mining. Gor.zhur. no.5:10-16
My '56. (MLBA 9:8)

1. Giprotsvetmet.
(Mine management)

SHPITAL'NIKOV, A.G.; BARONENKOV, A.V.

"Economic aspects of mining industries in the U.S.S.R." S.IA.
Rachkovskii. Reviewed by A.G.Shpital'nikov, A.V.Baronenkov.
Ger.zhur. no.9:60-62 S '56. (MLRA 9:10)
(Mineral industries)

AUTHOR: Shpital'nikov, A. G., Candidate of Economic Sciences SOV/127-59-1-25/26

TITLE: V. A. Novak. An Analysis of the Production Activity of the Mining Industry (V. A. Novak. Analiz proizvodstvennoy deyatel'nosti gornorudnykh predpriyatiy)

PERIODICAL: Gornyy zhurnal 1959, Nr 1, pp 78-80 (USSR)

ABSTRACT: This is a review of the above mentioned book by V.A. Novak.

ASSOCIATION: Giprotsvetmet, Moscow.

Card 1/1

AUTHOR: Selomonov, M.
TITLE: Conference at the Leading Ore-Mining Combine in Tyrny-Auz' (Khabardino-Balkariya) (Soveshchaniye na poredovom kombinatsionnoy promyshlennosti v Tyrny-Auz' (Khabardino-Balkariya))
PERIODICAL: Investitsiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1959, Nr 1, p 123 (USSR)

SOV/ABO-59-1-27/29

ABSTRACT: A conference was convened on 15-18th September 1958 at the Tyrny-Auz' Combine by the Institute for the Study of the Academy of Sciences of the USSR, Gosudarstvennyy nauchno-tekhnicheskii komitet Soveta ministrov SSSR (State Scientific and Technical Committee of the Council of Ministers of the USSR), the Khabardino-Balkarskiy nauchno-tekhnicheskoye obshchestvo tsvestnoy metallurgii (Scientific and Technical Society for non-ferrous metals), M.V. Yuzepchuk, G.I.K. (probably a mistake for G.I.K. (State Scientific and Technical Committee) - Abstractor) of the Council of Ministers of the USSR, "Main Lines for Technical Development in the Underground Mining of Ores of Non-Ferrous and Rare Metals in 1959-1965", M.I. Agoshkov, IGD AN SSSR (AS USSR), "Improvement in the Methods of the Underground Working of Large Deposits of Hard Ores", V.G. Dvuzhkov, "ZhIGRI", "Experience in the Use of the Single-Stage Method of Working Deposits Under Conditions Preserving the Surface from Caving", A.A. Popov, Institute Unpromed (Unpromed Institute), "Experience in the Working and Safety Precautions of Inflammable Ural Ores", "Zhurnal Tekhnicheskogo Instituta Diprosvetmet (Gosstatiznauka)", "Institute Diprosvetmet", D.P. Babrov, "Work of the VNIIM", "Production of Modern Boring Equipment on the Mining Institute AS USSR", "Comparative Evaluation of Methods of Charge Drilling in Hard Ores", N.A. Chikov, Sibirskoye otdeleniye AN SSSR (Siberian Department of the AS USSR), "Shield Propping in Working Large Lushes Seams and the Possibility of Using this Propping System in Working Ore Deposits", A.V. Bud'ko and L.I. Burtsay (Mining Institute AS USSR), "Systems of Working Large Hard-Ore Deposits in Foreign Quarries".

Card 1/3

Y.V. Medin, IGD Ukr SSR (Mining Institute Ukr SSR), "Ways of Combating Dust in Mining Operations" After this the conference heard reports on work at the Moril'skiy kombinat (Moril'sk combine), the Mikirovskiy rudnik kombinat, "Zhelez" combine, the "Verkhniy rudnik" (Upper quarry) of the kombinat Sishali (Sikote-Alin' deposits) of the Degtarskoye mestorozhdeniye (Dug-Arskoye deposit), Leninogorskiy kombinat (Leninogorsk combine), Tyrny-Auz'skiy kombinat (Tyrny-Auz' combine), Salairskiy rudnik (Salair quarry) and the Dzhetskazganskoye mestorozhdeniye (Dzhetskazgen deposit). The conference decided on measures for improving mining.

Card 2/3

Y.V. Medin, IGD Ukr SSR (Mining Institute Ukr SSR), "Ways of Combating Dust in Mining Operations" After this the conference heard reports on work at the Moril'skiy kombinat (Moril'sk combine), the Mikirovskiy rudnik kombinat, "Zhelez" combine, the "Verkhniy rudnik" (Upper quarry) of the kombinat Sishali (Sikote-Alin' deposits) of the Degtarskoye mestorozhdeniye (Dug-Arskoye deposit), Leninogorskiy kombinat (Leninogorsk combine), Tyrny-Auz'skiy kombinat (Tyrny-Auz' combine), Salairskiy rudnik (Salair quarry) and the Dzhetskazganskoye mestorozhdeniye (Dzhetskazgen deposit). The conference decided on measures for improving mining.

Card 3/3

11

SINDAROVSKIY, N.S.; SHPITAL'NIKOV, A.G.

Self-propelled equipment is a decisive factor in a sharp upswing
in labor productivity and mining. Gor.zhur. no.4:3-10 Ap '62.
(MIRA 15:4)

1. Glavnyy inzh. Gosudarstvennogo instituta po proyektirovaniyu
predpriyatiy tsvetnoy metallurgii (for Sindarovskiy). 2. Glavnyy
ekonomist Gosudarstvennogo instituta po proyektirovaniyu
predpriyatiy tsvetnoy metallurgii (for Shpital'nikov).
(Mining engineering---Equipment and supplies)

SINDAROVSKIY, N. S.; SHPI TAL'NIKOV, A. G., kand. ekon. nauk

Labor consumption in supporting operations in the mining industry should be curtailed. Ger. zhur. no.10:3-8 0 '62.
(MIRA 15:10)

1. Glavnyy inzh. Gosudarstvennogo instituta po proyektirovaniyu predpriyatiy promyshlennosti tsvetnoy metallurgii (for Sindarovskiy).
2. Glavnyy ekonomist Gosudarstvennogo instituta po proyektirovaniyu predpriyatiy promyshlennosti tsvetnoy metallurgii (for Shpital'nikov).

(Mine management)

SINDAROVSKIY, N.S.; SHPITAL'NIKOV, A.G., kand. ekonom. nauk;
MUZAL'KOV, M.I.

Quality of nonferrous metal ores and the profitableness
of production (discussion of the article by B.F. Novozhilov).
Gor. zhur. no.10:17-22 0 '63. (MIRA 16:11)

1. Glavnyy inzh. Gosudarstvennogo instituta proyektirovaniya
predpriyatiy promyshlennosti tsvetnykh metallov (for
Sindarovskiy). 2. Glavnyy ekonomist Gosudarstvennogo
instituta proyektirovaniya predpriyatiy promyshlennosti
tsvetnykh metallov (for Shpital'nikov). 3. Glavnyy marksheyder
Sadonskogo rudoupravleniya (for Muzal'kov).

SHPITAL'NIKOV, A.G., kand. ekonom. nauk

Economic substantiation for the working conditions of each mine.
Gor. zhur. no.2:17-21 F '65. (MIRA 18:4)

1. Gosudarstvennyy institut po proyektirovaniyu predpriyatiy
tsvetnoy metallurgii, Moskva.

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AUTHOR: Shpital'nikov, K. F. (Moscow)
TITLE: The Reduced Velocity λ_2 at the Exit from the Rotor of
the Centrifugal Stage

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Aviatsionnaya
tekhnika, 1960, Nr 1, pp 121-126 (USSR)

ABSTRACT: In the literature on centrifugal compressors there is lack of proper explanation of the fact that with a given pressure ratio of a single stage η_0 and the peripheral velocity u_2 of the impeller the reduced exit velocity λ_2 may have different values depending upon the magnitude taken for the meridian component of C_{2m} of the absolute velocity vector C_2 at the exit from the impeller. The rational choice of C_{2m} is accepted as that leading to the minimum value of λ_2 and to the efficient diffusion in the impeller channels, the latter having a pronounced effect on λ_2 . V. A. Strunkin (Ref 1) has shown that for a given coefficient of circulation μ a fully determined pressure ratio is obtained and what is in that case. This is also shown in Eq (1), which

Card 1/5

69325

S/147/60/000/01/014/018
E022/E535

The Reduced Velocity λ_2 at the Exit from the Rotor of the Centrifugal Stage

neglects the frictional losses in the impeller and assumes a constant efficiency for the complete stage. But given values of μ , u_2 and η_{ad} do not yet secure constancy of λ_2 at the impeller exit, which is quite clear from Eqs (2) to (6). Fig 1 shows the relations between π_0 and C_{2m} (full lines) and between β_{2n} and C_{2m} (dotted lines) for the case when $u_2 = 470$ m/sec, T_{o1} (stagnation temperature at the impeller inlet) = 280°K and $\eta_{ad} = 0.78$ as given by Eqs (1), (5) and (6). From the figure it is clearly seen that with u_2 and η_{ad} given and $\pi_0 = \text{const}$, λ_2 may have any value. Inspection of this figure as well as Figs 2 to 4 leads to the following conclusions:

1) With $\pi_0 = \text{const}$ λ_2 increases with C_{2m} and diffusion in the impeller channel (as defined by Eq 7) decreases, since the direction of the flow leaving the impeller ✓

Card 2/5

69325

S/147/60/000/01/014/018
E022/E555

The Reduced Velocity λ_2 at the Exit from the Rotor of the Centrifugal Stage

does not vary much. Hence, even with radially vaned impellers, when $\beta_{2n} = \text{const}$, it is worth while to make λ_2 smaller in order to ease the work of the diffuser of the stage on account of reduction in C_{2m} , and to increase diffusion rate of the impeller channels up to the allowable limit (see Ref 2). Fig 2 shows the variation of the diffusion rates as functions of λ_2 for 3 different pressure ratios π_0 . As λ_2 decreases (which is always desirable for a better performance of the diffuser) the diffusion rate in the impeller is higher, which can result in high impeller losses and may thus lead to a lower overall performance of the whole stage. This aspect requires further experimental investigations.

2) As seen from Fig 3 with $C_{2m} = \text{const}$ π_0 increases with λ_2 , and from Fig 1 it is clear that in this case β_{2n} decreases; this necessitates a change of the vane angle at the exit, i.e. a change from backward bent to forward

Card 3/5

69325

S/147/60/000/01/014/018
E022/E535

The Reduced Velocity λ_2 at the Exit from the Rotor of the Centrifugal Stage

bent vanes in the impeller. As for the diffusing action of the impeller channel, Fig 3 shows that D increases at first with λ_2 and then diminishes, the maximum being at $\beta_{2n} = 90^\circ$ (Eq 7). Hence impellers with radially spaced vanes in the meridian plane will always have a higher degree of diffusion than impellers with either forward or backward bent vanes.

3) With $\lambda_2 = \text{const}$, Fig 1 shows that various pressure ratios π_2 are possible, depending on C_{2m} at the exit from the impeller. But if C_{2m} varies so does the degree of diffusion in the impeller channels. This is shown in Fig 4. Thus, a number of examples can be given of incorrect design of stages of centrifugal compressors with a variety of badly shaped vanes at the exit (so that the flow leaves the impeller at a variety of angles) in which the diffusion in the impeller channels is very small, the pressure ratio of the stage very low but λ_2

Card 4/5

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69325

S/147/60/000/01/014/018
E022/E535

The Reduced Velocity λ_2 at the Exit from the Rotor of the Centrifugal Stage

being very high. For this reason the rational design should not be based on the assumption of $\lambda_2 = \text{const}$ for a given η_0 , but on a critical examination of the flow parameters at the impeller exit with the view of obtaining the optimal and, for any particular type of design, admissible diffusion in the impeller channel as well as the greatest possible reduction in λ_2 . There are 4 figures and 2 Soviet references.

SUBMITTED: October 9, 1959

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Card 5/5

SHPITAL'NIKOV, K.F., kand. tekhn. nauk

Review of I.U.S. Podobuev and K.P. Seleznev's book "Theory and calculation of axial and centrifugal compressors."

Teploenergetika no.4:93-95 Ap '60. (MIRA 13:8)
(Compressors)

(Podobuev, I.U.S.) (Seleznev, K.P.)

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AUTHOR: Shpital'nikov, K.F. (Moscow)

TITLE: On the Degree of Reaction of the Impeller in a Centrifugal Stage of a Compressor

PERIODICAL: Izvestiya Akademii nauk, Otdeleniye tekhnicheskikh nauk, Energetika i avtomatika, 1960, No.6, pp.183-185

TEXT: The degree of reaction is defined as the ratio of the static pressure rise to the total energy imparted to the air. Expressing this definition in terms of flow velocities and angles, it appears that the degree of reaction of the impeller is the lower, the smaller the relative flow exit angle from the impeller. This conclusion is shown to be erroneous. With constant values of the ratio of inlet to outlet absolute velocity components in the axial plane, of the outlet absolute velocity component in the axial plane, of the relative outlet velocity, and of the ratio of relative inlet and outlet velocities in the impeller, the degree of reaction in fact increases when the relative outlet angle increases, but only until certain values of these magnitudes are reached whereupon the relationship changes. It is shown that the relative height of Card 1/2

88347

S/024/60/000/006/014/015
E191/E485

On the Degree of Reaction of the Impeller in a Centrifugal Stage
of a Compressor

impeller channels and its variation with the relative outlet angle has a decisive effect on the degree of reaction and its relation to the relative outlet angle. With increasing relative outlet angle, the degree of reaction may either increase or remain constant or even diminish depending on the law of variation of the relative height of the channels at the impeller outlet. It follows that, in stages with so-called "reactive" impellers (where the relative outlet angle exceeds 90°), the proportion of kinetic energy transformed into pressure in the diffuser may easily increase when the relative outlet angle increases. There are 3 figures and 4 Soviet references.

SUBMITTED: February 1, 1960 ..

Card 2/2

SHPITAL'NIKOV, Konstantin Fedorovich; NIKOL'SKIY, V.P., kand. tekhn.
nauk, retsenzent; YAMINSKIY, V.V., kand. tekhn. nauk, red.;
SAVEL'YEV, Ye.Ya., red. izd-va; MODEL', V.I., tekhn. red.

[Semigraphical methods of determining the air parameters of
the centrifugal stage of a compressor] Grafoanaliticheskie sp-
soby opredeleniia parametrov vozdukha v tsentrobezhnoi stupeni
kompessora. Moskva, Mashgiz, 1961. 227 p. (MIRA 15:2)
(Compressors)

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AUTHOR: Shpital'nikov, K.F. (Moscow)
TITLE: The maximum output of a centrifugal compressor stage
PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,
Aviatsionnaya tekhnika, 1961, No.2, pp. 103-114
TEXT: A centrifugal compressor stage is of the smallest possible size when the mass density of flow at inlet to the impeller is maximum. A mathematical analysis is made of the maximum flow density at inlet to the impeller for an elementary stage, assuming that the actual stage consists of an infinity of elementary stages. An elementary stage consists of two infinitely close flow surfaces of the actual stage. In the actual stage the effects are complicated by changes in the parameters of the elementary stages over the radius and by velocity redistribution over the radius when operating conditions change. A theoretical expression is drawn up to determine the mass density of the flow at inlet to the impeller of an elementary stage and then expressions for the maximum value of this density are found. The maximum flow capacity of the inlet section of the impeller of an
Card 1/4

24531

The maximum output of a centrifugal... S/147/61/000/002/010/015
E194/E184

elementary stage is then considered assuming that velocity coefficients of the stage are known. It is shown that for maximum flows through the stage the critical value of swirl of air at inlet to the impeller is given by the expression

$$\lambda_u = B - \sqrt{B^2 - E} \tag{20}$$

where

$$B = \frac{k+1}{4k} \cdot \frac{1}{\lambda_w} \left[\left(1 + \frac{k-1}{k+1} \lambda_w^2 \right) + 2\lambda_w^2 \left(1 - \frac{k-1}{k+1} \tilde{\lambda}^2 \right) \right], \tag{17}$$

$$E = \frac{k+1}{2k} \left[\left(1 + \frac{k-1}{k+1} \lambda_w^2 \right) (1 - \tilde{\lambda}^2) + \frac{2}{k+1} \lambda_w^2 \right]. \tag{18}$$

where k is the adiabatic index,

$$\tilde{\lambda}^2 = \frac{\lambda_m^2 + (\lambda_w - \lambda_u)^2}{1 + \frac{k-1}{k+1} (\lambda_w^2 - 2\lambda_w \lambda_u)}, \tag{5}$$

Card 2/4