Organic Chemistry

CA

Synthesis of amino sulfides and amino sulfones. X. Synthesis of p-aminophenyl-β-ketone sulfides and p-aminophenyl β-ketone sulfones. I. Kh. Fel'dman and N. G. Preln (S. Ordzhonikidze All-Union Chem.-Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 21, 1651-6(1951).—Addn. of 1.1 g. KOH in 30 ml. EtOH to 4 g. EtO_2CCH_2SH, followed by 4 g. p-$AcNHC_6H_4COCH_2Cl$ and heating 3 hrs. at 40-5° gave upon dilu. 80.2% p-$AcNHC_6H_4COCH_2SCH_2CO_2Et$, m. 90-2.5° (from 70% EtOH). This (3 g.) with 2.5 ml. 20% H_2O_2 in AcOH 2 hrs. at 50-5° gave 59% corresponding *sulfone*, m. 160-70° (from 70% EtOH). This (2 g.) heated 1.5 hrs. to 100° with 20 ml. 14% HCl, cooled, and concd. gave a total of 1.2 g. (70.8%) p-$HO_2CCH_2SO_2CH_2COC_6H_4NH_3.HCl$, m. 190-1° (from EtOH). Treatment of 3.1 g. p-$O_2NC_6H_4SH$ with 1.1 g. KOH in EtOH, followed by 4.2 g. p-$AcNHC_6H_4COCH_2Cl$ 3 hrs. at 50°, gave 74% p-$AcNHC_6H_4COCH_2SC_6H_4NO_2$-$p'$ (I), yellow, m. 186-7° (from 70% EtOH), hydrogenated over Raney Ni in EtOH suspension to the *p'-amino analog*, m. 180-2° (from EtOH), which, heated 2 hrs. to 70-5° with AcOH-aq. HCl gave p-$H_2NC_6H_4COCH_2SC_6H_4NH_2$, m. 140-2° (from EtOH), upon neutralization with NH_4OH. I (6.5 g.) with 5 ml. 26% H_2O_2 in AcOH gave 90% corresponding *sulfone*, cream-colored solid (m.p. not given) (from EtOH-BuOH), which with H over Raney Ni gave 70% p'-*amino analog*, m. 147-9° (from EtOH), hydrolyzed with aq. HCl-AcOH to the *diamino compd.*, identical with the previously described specimen, m. 216-17° (Otto, *J. prakt. Chem.* (2) 36, 401(1887)). I (1.8 g.), 0.75 g. p-$Me_2NC_6H_4CHO$, 7 ml. pyridine, and 2 drops piperidine refluxed 10 hrs. and then treated with 1% HCl gave 0.6 g. p-$AcNHC_6H_4CO$-p'-$O_2NC_6H_4SO_2)C{:}CHC_6H_4NMe_2$-$p$, m. 76-8° (from aq. EtOH), which with H over Raney Ni in EtOH gave 58% p'-*amino analog*, yellow-green, m. 139-41° (from EtOH), converted by heating 6 hrs. to 70-5° with AcOH-concd. HCl to p-$H_2NC_6H_4CO$-p-$H_2NC_6H_4SO_2)C{:}CHC_6H_4NMe_2$-$p$, m. 160-2.5° (from 70% EtOH), after neutralization with NaOH. **XI. Synthesis of 2,2,2-trichloro-1-hydroxyethyl p-nitrophenyl sulfide, its acetoxy derivative, and sulfoxide.** I. Kh. Fel'dman and T. I. Gurevich. *Ibid.* 21, 1656-8.—Cl_3CCHO (14.7 g.) and 15.5 g. p-$O_2NC_6H_4SH$ treated 2 hrs. with dry HCl at 55-60°, then poured into cold H_2O gave 83% $Cl_3CCH(OH)SC_6H_4NO_2$-p (I), m. 64-6° (from Et_2O). A similar reaction in the presence of Ac_2O gave 75% of the corresponding 1-AcO compd. (II), m. 68-9° (from Et_2O). The latter (3.5 g.), 25 ml. AcOH, and 5 ml. Ac_2O treated at 5-8° with 7 ml. 29% H_2O_2, then warmed to 50°, gave after 3 hrs. 58% of the *sulfoxide*, $C_{10}H_8O_5NSCl_3$, m. 119-20° (from AcOH). I is not very stable and attempts at its acetylation or oxidation led to destruction of the mol. even at room temp. Even II is not very stable and is decompd. by heat or alk. solns.

G. M. Kosolapoff

1ST AND 2ND ORDERS

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10

CA

4-Nitrophenyl 2-acetamido-5-thiazolyl sulfide. I. Kh. Fel'dman and N. G. Prein. U.S.S.R. 69,003, Aug. 31, 1947. $(O_2NC_6H_4)_2S_2$ is chlorinated and to the product is added directly aminothiazole 1, glacial AcOH 2, and Ac_2O 1.5 parts. M. Hosch

COMMON ELEMENTS

OPEN

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PREININGER, M.

Present situation and outlook for the future in the mechanization of grain harvesting in Czechoslovakia. p. 77. SBORNIK. RADA MECHANISACE A ELEDTRIFIKACE ZEMEDELSTAVI A LESNICTVE. Praha. Vol. 28, no. 2/3, Sept. 1955.

SOURCE: East European Accessions List (EEAL) Library of Congress Vol. 5, No. 7, July 1956.

PREINING, Miroslav, ing.

Complex mechanization of Czechoslovak agriculture and its industrialization. Zemedel tech 9 no.3:165-168 Je '63.

1. Reditel Vyzkumneho ustavu zemedelske techniky, Repy u Prahy.

STEJSKAL, Jan; PLESNIK, Jan; HRUSKA, Ladislav; SVOBODA, Jaroslav; NAJMR, Stanislav; ~~PREININGER, Miroslav~~; HAUNER, Frantisek; BENDA, Josef, inz.; KRAJCOVIC, Vladimir; VLCEK, Kvetoslav; KRBLICH, Jan; CERNY, Ladislav, Dr.; DVORACEK, Miroslav, inz. dr.; CHYTRA, Frantisek, inz.; FOLTYN, Jiri; VYSKOT, Miroslav; STAMBERA, Jaroslav, C.Sc. Doc.Inz.; KOSIL, Vladimir; STUCHLIK, Jaroslav, Inz.; NAKLADAL, Jaroslav, Inz.; RICHTER, Lev, MVDr.

Statements of directors of institutes, and of managers of workplaces of the Czechoslovak Academy of Agricultural Sciences. Vestnik CSAZV 8 no.8/9:496-531 '61.

1. Dopisujici clen Ceskoslovenske akademie zemedelskych ved (for Stejskal, Plesnik, Hruska, Svoboda, Najmr, Preininger, Hauner, Benda, Krajcovic, Krblich, Dvoracek, Foltyn, Vyskot, Kosil) 2. Clen redakcni rady Vestniku Ceskoslovenske akademie zemedelskych ved (for Plesnik, Preininger, Foltyn, Vyskot) 3.Reditel Vyzkumneho ustavu zivocisne vyroby Ceskoslovenske akademie zemedelskych ved v Uhrinevsi (for Dvoracek) 4. Reditel Ustavu pro vedeckou soustavu hospodareni Ceskoslovenske akademie zemedelskych ved v Praze (for Benda)

(Czechoslovakia—Agriculture)

PREININGER, M.

"Conclusions made at the meeting of the Department of Mechanization and Electrification in Agriculture"

Vestnik. Praha, Czechoslovakia. Vol. 5, special issue, 1958

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 6, Jun 59, Unclas

[illegible], J.

Present situation and outlook for the future in the mechanization of grain harvesting in Czechoslovakia. p. 77.

SOURCE: [illegible] VOL. 2c, no. 2/3, Sept. 1955

Czechoslovakia

so. [illegible] vol. 5, no. 7 July 1956

PREININGER, M.

Science helps the mechanization of agriculture. p. 441. (MECHANISACE ZEMEDELSTVI, Vol. 6, No. 23, Dec 1956, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 12, Dec 1957. Uncl.

PREININGER, M.

Report on the activities of the Department of Mechanization and Electrification in Agriculture. p. 269. (VESTNIK, Vol. 4, No. 5/6, 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 12, Dec 1957. Uncl.

FREININGER, M.

Keynote address at the International Conference on the Mechanization of Fodder Harvesting. p. 330. (VESTNIK, Vol. 4, No. 7/8, 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 12, Dec 1957. Uncl.

PREININGER, Miroslav, inz.

From the activities of the Research Institute of Agricultural Technology. Vest ust zemedel 10 no.5:200-202 '63.

1. Reditel Vyzkumneho ustavu zemedelske techniky, Repy u Prahy.

1ST AND 2ND ORDERS

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3RD AND 4TH ORDERS

Bc

5-III-2

Conductometric study of over-carbonatation [of sugar solutions]. K. Šafránek and V. Přeuchera (Z. Zuckerind. Czechoslov., 1930, 55, 115—119; cf. B., 1930, 562).—In the carbonatation of sucrose solutions containing pure lime, the conductivity curve, plotted against diminishing alkalinity, showed a sharply defined minimum at the neutral point to phenolphthalein. In presence of 0·5% of potassium hydroxide the minimum occurred at an alkalinity of 0·04% CaO. In presence of 0·04% of ammonium hydroxide, which is only slightly more than most juices contains after liming, the minimum occurred at an alkalinity of 0·08% or 0·082% CaO, according as pure lime or technical lime containing 3% of magnesia was used. On saturating beyond the minimum, the increase in conductivity for a given fall in alkalinity was much greater with the technical than with the pure lime, owing mainly to interaction of the ammonia with the magnesia in the lime. Among alkalis, ammonia has thus an exceptional influence on the optimum end-point of carbonatation, as judged by the elimination of electrolytes, especially where impure lime is used, and in this case it also increases the amount of electrolytes redissolved when carbonatation is carried beyond the optimum point.

J. H. Lane.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

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3RD AND 4TH ORDERS

BC

Decrease of the salts in carbonatation [of sugar juice] as observed by electrical conductivity measurements. K. SANDERA and V. PREISINGER (Z. Zuckerind. Czechoslov., 1930, 54, 247—253).—By plotting curves for values of alkalinity and electrical conductivity, the influence of certain salts on the course of carbonatation was determined. It was shown that the chloride, sulphate, phosphate, hydroxide, oxalate, citrate, aspartate, and glutamate of potassium and the sulphates of calcium and magnesium, or their corresponding ions, are eliminated from solution in agreement with previous results established by means of analytical methods. It was possible not only to follow these effects during the course of carbonatation from an initial alkalinity of 0·30% down to neutrality, but the authors were also able to demonstrate that each anion forming insoluble calcium salts acts moreover in a very characteristic manner, either in exercising a secondary effect on the formation of buffer mixtures, or else in modifying the adsorbing power of the precipitate.

J. P. OGILVIE.

COMMON ELEMENTS

MATERIALS INDEX

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

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Co

2 8

Conductivity during the end of saturation. K. Šandera and V. Preininger. *Listy Cukrovar.* 48, 443-7(1930).—NH_3 salts have a great influence upon the over-satn. phase. The presence of 0.2% NH_4OH shifts the oversatn. to regions of higher alky. (0.14% CaO). In the region of oversatn., 8 times as much salt redissolves from the sediment at a CaO content of 0.08% as compared to a 0.145% soln. This shift depends upon the compn. of the CaO and especially upon impurities as MgO. The NH_3 action is different from that of alkalies. In alk. media where the NH_3 may be uncombined, the elec. cond. is very low. The NH_3 may form complexes readily; it may be adsorbed; the dissociation may be suppressed. NH_4Cl is not absorbed like the Cl salts of alkalies; it produces only a slight effect upon the shift during satn.; $(NH_4)_2CO_3$ has an action similar to that of NH_4OH; the actions are most marked with the purest CaO.

Frank Marsh

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Ca

The decrease of salt in sugar solutions during saturation. K. Sandera and V. Preininger. *Listy Cukrovar.* 48, 169–74(1929).—Cond. curves of satn. liquors were observed and followed by the effect of various salts upon cond. curves during satn. Individual salts KCl, K_2SO_4, $CaSO_4$, $MgSO_4$, K_3PO_4, $K_2C_2O_4$, K citrate, K H aspartate and K glutamate and their ions are removed from solns. in agreement with chem. analytical methods. Cond. measurements permitted following this process to the end of satn. (from alky. of 0.36% CaO to beyond neutrality). Anions which form insol. salts show an influence upon the course of satn. (chiefly PO_4 and C_2O_4); they act secondarily upon the formation of buffers or change the adsorptive power of the sediments. This explains the abnormal behavior of the salts K_2SO_4 and K_3PO_4. Frank Marsh

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CZECHOSLOVAKIA/Physical Chemistry. Electrochemistry. B

Abs Jour: Ref Zhur-Khimiya, No 22, 1958, 73424.

Author : Preininger, Vladimír; Santavý, Frantisek.
Inst :

Title : Polarography of Alkaloids. XXII. On the Polarography of Veratrine Alkaloids.

Orig Pub: Chem. listy, 1958, 52, No 1, 140-141; Collect. czechosl. chem. Commun., 1958, 23, No 6, 1153-1154.

Abstract: The reduction (R) of the conjugate system of the α, β - unsaturated bond and of the keto group takes place in ervine. The height of the single 2-electron wave does not depend on pH. $E_{\frac{1}{2}}$ shifts 61 mv per unit of pH to the negative side with the pH rise. At pH = 0, $E_{\frac{1}{2}}$ = -0.90 v. Cevine, vera-

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CZECHOSLOVAKIA/Physical Chemistry. Electrochemistry. B

Abs Jour: Ref Zhur-Khimiya, No 22, 1958, 73424.

cevine and germine do not produce R waves. In the opinion of the authors, the polarographic waves of veratramine and veratrosine observed earlier (Walaszek E.J., Picrio A., J. Amer. Pharmac. Assoc. Scient. Ed., 1952, 41, 270) were caused by the use of not sufficiently pure preparations. See report XXI in RZhKhim, 1957, 14928.

Card : 2/2

CZECHOSLOVAKIA/Physical Chemistry. Electrochemistry. B

Abs Jour: Ref Zhur-Khimiya, No 22, 1958, 73422.

Author : Vladimír Preininger, Helena Potesilová, František Santavý.

Inst :

Title : Polarography of Some Heterocyclic Oxonium Compounds.

Orig Pub: Chem. listy, 1958, 52, No 1, 25-30; Collect. czechosl. Chem. commun., 1958, 23, No 5, 860-865.

Abstract: The influence of pH on the waves of pyrrole, pyridine and quinoline aldehides was studied. The $E_{\frac{1}{2}}$ of the anion differs from the $E_{\frac{1}{2}}$ of the non-dissociated acid in the case of the 5-pyrrolealdehide-2-carboxylic acid. The reduction of the quinoline ring proceeds at more negative E-s than the reduction of aldehide group in the case of quinoline derivatives.

Card : 1/2

CZECHOSLOVAKIA/Physical Chemistry. Electrochemistry. B

Abs Jour: Ref Zhur-Khimiya, No 22, 1958, 73422.

The $E_{\frac{1}{2}}$-s were measured referred to sat. calom. el-de (extrapolated to pH = 0); N-methylpyrrole-2 aldehide - -115 v; 5-pyrrolealdehide-2-carboxylic acid - -0.83 v; 3-pyridine aldehide - -0.49 v; 2-pyridine aldehide - -0.30 v; 6-methylpyridine-2 aldehide - -0.30 v; 2,6-pyridine aldehide - -0.30 v; 4-pyridine aldehide - -0.25 v; 2-quinoline aldehide - -0.13 v; -0.76 v; 4-quinoline aldehide - -0.14 v; -0.76 v.

Card : 2/2

PRELININGER, V.; SATAVY, F.

SCIENCE

Periodical CHEMICKE LISTY. Vol. 52, no. 1, Jan. 1958.

PRELININGER, V.; SATAVY, F. Polarography of alkaloids. XXII. Polarography of veratrum alkaloids. p. 140.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 3, March, 1959. Uncl.

PREININGER, V.; POTESILOVA, H.; SANTAVY, F.

SCIENCE

Periodical CHEMICKE LISTY. Vol. 52, no. 1, Jan. 1958.

PREININGER, V.; POTESILOVA, H.; SANTAVY, F. Polarography of some heterocyclic oxo compounds. p. 25.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 3, March, 1959. Uncl.

CZECHOSLOVAKIA UDC 617.55-089.85:616-089.5)-092.22(616.831)-008.9
(:547.964.4)-092.2

CERNOCH, M.; PREIHINGER, V.; Chemical Institute, Medical Faculty, Palacky University (Chemicky Ustav Lekarske Fakulty PU), Olomouc, Director (Reditel) Prof Dr F. SANTAVY.

"The Influence of Anesthesia and Laparatomy on the Glutathione Content of the Liver and Brain in Rat."

Prague, Casopis Lekaru Ceskych, Vol 105, No 33, 19 Aug 66, pp 877 - 881

Abstract /Authors' English summary modified/: Reduced glutathione content in the liver and brain of rats resulting from anesthesia with ether and chloroform, and laparotomy is described. Anesthesia causes the reduction in the glutathione content for a few hours following it; laparatomy has a long-term reducing effect lasting for 2 days. Changes in the liver are greater than those in the brain. 3 Figures, 3 Tables, 12 Western, 3 Czech, 6 Russian, 1 Japanese, 1 Indian, 1 Hungarian reference. (Manuscript received Mar 66).

1/1

Preiningerv.

PRELIMINARY

Polarography of alkaloids. XXI. The constitution of protopine and related compounds. J. Slavík, L. Slavíková, V. Preininger, and F. Santavý (Univ. Olomouc, Czech.). Chem. Listy 50, 656-9(1956); cf. C.A. 49, 10030d.—Polarographic studies of the dependence of the kinetic wave of protopine (I) on pH lead to the conclusion that in an acid soln. the carbonyl group of I is not preserved. A polarographically reducible group is found in the pH range 6-11. The carbonyl group of substances having quaternary N in the mol. remain preserved in the entire range of the Britton-Robinson buffer soln. This is concluded from the pH-dependence of the 2-electron-diffuse-wave of protopine methiodide. F. Strafella

4

PREININGER, Vladimir, inz., dr.

Examination of meat pasteurization and sterilization by ionizing radiation. Prum potravin 14 no.1:49-55 Ja '63.

1. Ustredni vyzkumny ustav potravinarskeho prumyslu, Praha.

PREININGERNOVA, V., Ins. Usc.

Use of electronic digital computers for the solution of technical and economic problems in building transformers. Il tech obzor 53 no.11:617-618 N '64.

L 33628-66

ACC NR: AP6025049 SOURCE CODE: CZ/0017/65/054/008/0375/0379

56
B

AUTHOR: Preiningerova, Vera (Engineer; Candidate of sciences)
ORG: State Research Institute for Electric Power Engineering (Statni vyzkumny ustav silnoproude elektrotechniky)

TITLE: Question of the suitability of utilizing the Peltier effect for the cooling of electrical machines

SOURCE: Elektrotechnicky obzor, v. 54, no. 8, 1965, 375-379
TOPIC TAGS: electric instrument, Peltier effect, heat loss, heat conduction, cooling

ABSTRACT: The paper discusses whether it is suitable to utilize the Peltier effect for dissipation of heat from electrical machines. The method of equivalent thermal circuits is used to determine the losses led away from the cooled medium at the optimal value of the current, for different methods of cooling element; those losses are compared with those led away by heat conduction because of the temperature gradient and the thermal conductivity of the material itself; in addition, they are compared with the power input required for their removal. The article concludes that it is not appropriate at present to utilize the Peltier effect for the cooling of machines, neither as an independent method nor in combination with other cooling systems. This paper was presented by Engineer L. Stourac, Candidate of Sciences. Orig. art. has: 4 figures, 14 formulas and 2 tables. [Based on author's Eng. abst.] [JPRS]

SUB CODE: 09, 20 / SUBM DATE: 18May64 / ORIG REF: 004 / SOV REF: 002
OTH REF: 001

LS

Card 1/1 UDC: 537.322.1: 621.313.017.72

0916 0216

CZECHOSLOVAKIA

PREIS, A., POLAK, B., POHL, B., and NOVAKOVA, J., Clinic of Occupational Diseases (Klinika chorob z povolani) Faculty of Medicine (Lekarska fakulta), J.Ev. Purkyne University, Brno; Docent Dr. J. VYSKOCIL, director; Department of Internal Medicine (Vnitrni oddeleni), Faculty Hospital, Brno, Docent Dr. O. SAXL, director; and Research Institute for Synthetic Rubber (Vyzkumny ustav syntetickeho kaučuku), Gottwaldov, J. PECH, MD, director.

"Do Substances with Surface Activity Have Any Relation to the Manifestation of Leukemia?"

Prague, Casopis Lekaru Ceskych, Vol CII, No 24, 14 June 63, pp 677-678.

Abstract: Report on a forteen-year old girl who suffered from leukemia caused by swallowing a chemical detergent. Orientation experiments were made with rats. Further tests are being planned to draw definite conclusions.

1/1

PREIS, A.; LAXOVA, R.; ROVENSKY, J.

Dynamics of sweating reactions in rheumatic patients. Cesk. derm. 37 no.5:307-312 O '62.

1. Vnitrni odd. Fakultni detske nemocnice v Brne, prednosta doc. dr. O. Saxl. Kozni odd. Detske fakultni nemocnice v Brne, prednosta dr. J. Rovensky.
(RHEUMATISM) (SWEAT GLANDS) (PILOCARPINE)

PREIS, A. (Brno, Cerna pole)

A fatal case of pluriorificial ectodermosis with general moniliasis. Cesk. pediat. 13 no.2:130-134 Mar 58.

1. Vnitrni oddeleni Krajske detske nemocnice v Brne-Cernych polich, prednosta doc. Dr O. Saxl.

(ERYTHEMA MULTIFORMS, compl.
Stevens-Johnson synd, with general moniliasis in child, fatal (Cz))
(MONILIASIS, in inf. & child
with Stevens-Johnson synd., fatal (Cz))

PREIS, A., TRETINOVA, Z.; [illegible]NY, M.

Atypical Klinefelter's syndrome with [illegible]ere osteoporosis [illegible] an 11-year-old boy. Cesk. pediat. [illegible] no.12:1094-1101 D '64

1. Interni oddeleni (vedouci doc. dr. [illegible]. Sarl) a ortopedicke oddeleni (vedouci doc. dr. M. Fait) fakultni detske nemocnice Krajskeho ustavu narodniho zdravi Jihomoravskeho kraje v Brne a Biologicky ustav fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta prof. dr. B.Sekla).

PREIS, A.; POLAK, B.; POHL, B.; NOVAKOVA, J.

Do surface-active agents bear a relation to manifestations of leukemia? Cas. lek. cesk. 102 no.24:677-678 14 Je '63.

1. Klinika chorob z povolani lekarske fakulty UJEvP v Brne, prednosta doc. dr. J. Vyskocil Vnitrni oddeleni fakultni nemocnice v Brne, vedouci doc. dr. O. Saxl Vyzkumny ustav syntetickeho kaucuku v Gottwaldove, reditel MUDr. J. Pech.
(SURFACE-ACTIVE AGENTS) (LEUKEMIA)
(NUCLEOSIDES) (BLOOD TRANSFUSION)

PREIS, A.

Electrocardiographic findings in congenital aortic stenosis.
Cas. lek. Cesk. 104 no.46:1263-1268 19 N '65.

1. Vyzkumny ustav pediatricky v Brne (reditel prof. dr.
Z. Brunecky, CSc.).

Physical-chemical properties of sulfite-chromium complexes. E. PREIS. *Vestnik Kosheevnoi Prom. Torgov.* **1929**, 692-5; *Chem. Zentr.* **1931**, I, 725.—When Na_2SO_3 is added to $Cr(OH)SO_4$ the Cr is converted into a complex anion. The stability of these sulfite-Cr complexes depends on the p_H of the sulfite. p_H 7 yields the most stable complex compd. If more SO_3 ions are present in a mol. the p_H of the Cr solns increases. The charge of the particles is changed by the addn. of sulfite. Migration to the anode starts at 1.3 mols. SO_3 in alk. sulfite (p_H 8.4) or at 2.0 mols. in neutral sulfite (p_H 7). The point of change to neg. charge coincides with the max. Cr fixation by hide powder. This max. is also reached with a soln. 2 days old. Silica gel and pure cellulose do not fix Cr, but adsorb a little reversibly. Glutein adsorbs it irreversibly like hide powder. Activated carbon gives a characteristic adsorption curve without max. The quantity of adsorbed Cr is inversely proportional to the quantity of sulfite. Spectrophotometric detns. show that there is no interruption of complex formation in the Cr soln. at 2 mols. SO_3, or even at 50 mols. SO_3. Cr solns. contg. 0.25–100 mols. SO_3 give characteristic absorption spectra, quite different from that of $Cr(OH)SO_4$. They show the greatest change in the yellow part and indicate that at least 2 Cr-Na_2SO_3 complexes are formed.

ALFRED BURGER

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

A-1

B c

Magnesium-chromium(III) phosphates. of. sulphite-chromium complexes. I. Pozin (Vestn. Kozhev. Prom. Tovar., 1936, 4[6], 22—25).—The complex obtained by adding $MgSO_4$ to $Cr(OH)PO_4$ in most stable at pH 5.5 in solution in the cold; stable at 1·5 mols. PO_4 per mol. at pH 5·4, or 2·5 at pH 7. The point of change, in negative charge, corresponds with that of MnO_2. Cr formed by Mg powder; this max. is also shown by a solution 2 days old. PO_4 gel and colloidal do not Mn, Cr, but possibly adsorb a little; gluten adsorbs it increasingly. Adsorption C given a characteristic absorption curve without max., Cr solutions containing C10—100 mols. PO_4 give characteristic absorption spectra; at least two Mg_2PO_4–Cr complexes are formed. Cu. Abs.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Preis, G. A.

Schnellzerspanung von Metallen. Leipzig, Fachbuchverlag, 1953.
200 P. Diagrs., Tables
Translation from the Russian: "Skorostnoye rezaniye metallov," Moscow, 1950.

PHEIS, A.

Cushing's syndrome in a 10-year-old girl. Cesk pediat 18 no. 3:241-245 '63.

1. Vnitrni oddeleni krajske detske nemocnice v Brne, vedouci doc. dr. O. Saxl. Cesk pediat 18 no. 3:241-245 '63.
(CUSHING'S SYNDROME)

PREIS G. A.

Author: Preis, G. A.

Title: The high speed cutting of metals. (Skorostnoe rezanie metallov.) 191 p/

City: Kiev

Publication: State Sci-Tech. Pub. of the Machine Construction Literature

Date: 1950

Available: Library of Congress

Source: Monthly List of Russian Accessions, Vol. 4, No. 3, June, 1951

PREIS, G. A.

High-speed metal cutting Kiev, Gos. nauchno-tekhn. izd-vo mashinostr lit-ry, 1950. 191 p. (51-27951)

TJ1250.P05

PREIS, Hanna, mgr

Demand for short and medium range tramps. Techn gosp morska 14 no. 6:167-168 Je '64.

1. Maritime Institute, Gdansk.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

B-I-8

BC

Active alumina catalyst. E. V. Alexeevski and V. G. Fanas (J. Appl. Chem., Russia, 1930, 3, 859—862). —Air-dried hydrated alumina (70%, sieve 900 per cm.^{2}) and kaolin (30%) are mixed and steamed for 1 hr.; a paste with water is formed into rings 12 mm. in diam. and 20 mm. high, which are dried at 150°. The catalyst is used for dehydration of ethyl alcohol.

Chemical Abstracts.

COMMON ELEMENTS

OPEN

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ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

CA

Preparation and properties of an active alumina catalyst for industrial purposes. E. V. ALEKSEEVSKII AND I. G. PREIS. *Zhur. Prikladnoi Khim.* 3, 839-62(1930); cf. *C. A.* 24, 4442.—A dehydrating catalyst is prepd. by mixing 70% air-dried hydrated alumina, ground to pass a sieve contg. 900 openings per sq. cm., with 30% kaolin from Glukhov, steaming the mixt. for 1 hr., adding enough H_2O to form a paste and forming hollow rings 12 mm. in diam. and 20 mm. high, which are dried for several hrs. at 150°. Hydrated Al_2O_3 is best prepd. by pptg. it with HCl from Na aluminate soln. or with NH_3 from $Al_2(SO_4)_3$ soln. The catalyst is used commercially for dehydrating EtOH.

V. KALICHEVSKY

COMMON ELEMENTS

OPEN

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ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

L 20206-66 EWT(1)/EWP(t)/EWP(k) JD/HW
ACC NR: AP6010323 SOURCE CODE: CZ/0042/65/000/003/0172/0186

AUTHOR: Preis, Jarmil

ORG: Research Institute of Mechanization and Automation, Nove Mosto nad Vahom (Vyzkumny ustav pre mechanizaciu a automatizaciu)

TITLE: Acoustical effects of spark discharges in fluids

SOURCE: Elektrotechnicky casopis, no. 3, 1965, 172-186

TOPIC TAGS: electric discharge, electronic circuit, electric capacitor, spark shock wave, fluid mechanics, acoustic effect

ABSTRACT: The paper deals with the influence of the parameters of a discharge circuit with a capacitor and a fluid medium on the magnitude of the pulse wave. It is concluded that the velocity of the pressure wave is dependent on the initial phase of the discharge, characterized by an intense voltage drop. Using certain simplifications, the pulse pressure was calculated for the parameters of various discharge circuits and a comparison was made with experimental data. A good agreement was found with similar cases. This paper was presented by J. Oravec. Orig. art. has: 15 figures and 7 formulas. /JPRS/

Card 1/1 SUB CODE: 20,09/ SUBM DATE: 17Feb64/ORIG REF: 003/OTH REF: 002/SOV REF: 009

PREIS, Jarmil, inz.

Contribution to the investigation of the cutting efficiency in electrospark erosion. El tech cas 14 no.3:159-165 '63.

1. Vyvojovy ustav pre mechanizaciu a automatizaciu, Nove Mesto nad Vahom.

Z/042/63/000/001/003/003
E140/E463

AUTHOR: Preis, Jarmil, Engineer

TITLE: Efficiency of a capacitive discharge circuit and the cutting at spart erosion working

PERIODICAL: Elektrotechnický časopis, no.1, 1963, 26-37

TEXT: The method is of recent development and is not yet well understood. The paper considers the problem of cutting rate. Previous studies which considered only the amount of metal removed in a single discharge and which neglected the general operating conditions are criticized. With increased input power the temperature is increased and therefore the effect of successive individual discharges increases. The theoretical limit of electrical efficiency for capacitive discharge circuits is 50%, but with increased power, required for raising the cutting rate, can drop to 30%. The efficiency of a rotary generator is substantially higher. There are 15 figures and 1 table.

ASSOCIATION: Vývojový ústav pre mechanizáciu a automatizáciu, Nové Mesto nad Vahom (Institute for Development of Mechanization and Automation, Novy Mesto nad Vahom)

Card 1/1 SUBMITTED: September 4, 1962

PREIS, Jarmil, inz.

Electrosparking crater. El tech cas 13 no.4:230-237 '62.

1. Vyvojovy ustav pre mechanizaciu a automatizaciu, Nove Mesto nad Vahom.

PREIS, Jarmil, inz.

Effect of condenser discharge circuits and reduction of efficiency in electrospark erosion. El tech cas 14 no.1:26-37 '63.

1. Vyvojovy ustav pre mechanizaciu a automatizaciu, Nove Mesto nad Vahom.

Z/056/62/019/001/004/012
1037/1237

AUTHOR: Preis, J.

TITLE: Outflow of cores from cast by the electrohydraulic effect

PERIODICAL: Přehled technické a hospodářské literatury. Hutnictví a strojírenství, v. 19, no. 1, 1962, 24

TEXT: The pressure wave method is suitable for autimatic removal of cores from medium-heavy casts with complex internal cavities. There are 5 photos, and 1 scheme.

HS 62-293. 1961 VIII, Slévárenství 9, no. 8, 306-308

[Abstracter's note: Complete translation.]

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Z/042/62/000/004/002/002
E073/E335

AUTHOR: Preis, Jarmil, Engineer

TITLE: Electro-spark craters

PERIODICAL: Elektrotechnický časopis, no. 4, 1962, 230 - 237

TEXT: The author reviews information published in various countries on the mechanism of crater formation. He proposes the following mechanism of formation of electro-spark craters: after breaking-down the dielectric the electrodes are bridged over by a conducting channel and the form of the arc depends on the ability of the source to supply energy to cover the heat losses caused by lateral transmission and the cathode emission; the cathode has a decisive influence on the shape of the arc and the energy distribution. Experiments carried out in the laboratory of the author verify these statements. Thermal processes are decisive for the formation of the electro-spark crater and therefore the thermal field is calculated from a plane circular source. The analytically obtained values are compared with measured values of the depths of the craters, using a published semi-empirical formula. The surface of the craters is

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Electro-spark craters

Z/042/62/000/004/002/002
E073/E335

not an entirely plane source. In view of the fact that there is a sufficient agreement between the results of the thermal calculations and the measured depths of the craters, the here described calculations can be used for determining the depth of the affected zone and the possibility of crack formation. The author points out that there are discrepancies between published formulae for calculating the volume and the surface of craters and experimentally obtained data. There are 5 figures and 1 table.

ASSOCIATION: Vývojový ústav pre mechanizáciu a automatizáciu, Nové Mesto nad Váhom (Development Institute for Mechanization and Automation, Nové Mesto nad Váhom)

SUBMITTED: October 6, 1961

Card 2/2

PREIS, M.

KRYNSKI, S; BOROWSKI, E; CHWIESTECKA, W; BECLA, E; KONIAR, H.; PREIS, M.

Works on the new antibiotic tetaine. Acta Poloniae pharm. 12 no.2:85-89 1955.

1. Zaklad Mikrobiologii i Instytut Medycyny Morskiej A.M. w Gdansku i Zaklad Technologii Srodkow Leczniczych Politechniki w Gdansku.
(ANTIBIOTICS,
tetaine)

KRYNSKI, S.; BOROWSKI, J.; PREIS, M.; LALKO, J.

Investigations on sensitivity of strains of Staphylococcus to sulfonamides. Bull. Inst.Marine Trop. M.Gdańsk 6:161-170 1955.

1. Z Zakladu Midrobiologii A.M. w Gdansku.
(MICROCOCCUS PYOGENES, effect of drugs on,
sulfonamides, sensitivity)
(SULFONAMIDES, effects,
on Micrococcus pyogenes, sensitivity)

PREIS, W. F.

N. Y. Kamyshni, M. V. Medvidy, and W. F. Preis, "On the Problem of Automatic Feeding of Work Pieces to Lathes and Presses."

paper presented at the 2nd All-Union Conf. on Fundamental Problems in the Theory of Machines and Mechanisms, Moscow, USSR, 24-28 March 1958.

PREISICH, G.

Taste in architecture, taste in streets. p. 683. Vol 114, no. 11, Nov. 1955. TERMESZET ES TARSADALOM. Budapest, Hungary.

International Congress of Historians held in Rome. p. 687.

So: Eastern European Accession. Vol 5, no. 4, April 1956

PREISICH, Gabor

Plan for regulating the Danube bend. Epites szemle 5 no.9:257-270 '61.

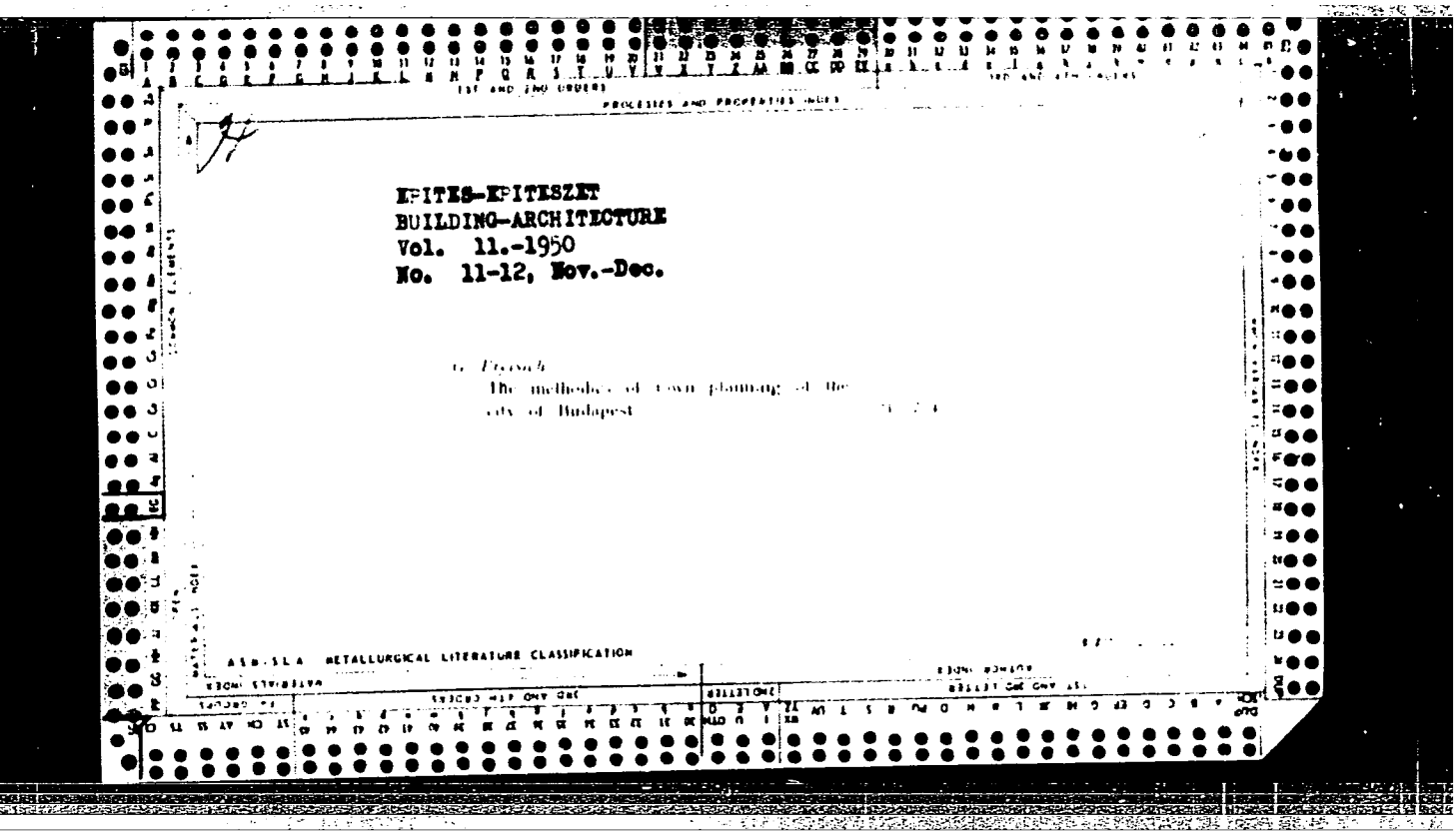
1. Budapesti Varosepitesi Tervezo Iroda foepitesze.

24

711 1:2 012 1 (1.9 1 5)

98. The methodics of town planning as applied to Budapest, by G. Preisich & Lajos Epheszet *Building-Architecture* Vol II, No 11 12, Pp 721 - 724, Nov. - Dec., 1950, 1 tab).

The building of Socialism has given an entirely new meaning to the question of town planning. Contrary to the so-called *idealistic* plans of the past, - which, by the way, were never realized - the present plans are inspired by actual requirements. These plans cover definite periods of time, and, simultaneously, with their execution the experiences gained may be immediately evaluated. First of all, it is necessary to establish the method of work, as well as the system of interrelated tasks. The correct sequence of planning is first to draw up a general town plan, with plans of the details following subsequently. This calls for a number of preparatory tasks, such as the compilation of data, their evaluation etc. In an attempt to facilitate this work, the author, in collaboration with the designers of the *Budapest Institute for Town Planning*, drew up a comprehensive table on the methodics of planning



ÉPITÉS-ÉPÍTÉSZET
BUILDING-ARCHITECTURE
Vol. 11.-1950
No. 11-12, Nov.-Dec.

1. French
The methods of town planning of the city of Budapest

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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EPITES — EPITESZET
BUILDING — ARCHITECTURE
Vol. II. — 1950
No. 9-10, Sept. - Oct.

G. Preisich. 179
Construction of dwelling houses and the contest initiated by the Ministry of Building for standard designs for dwelling houses. pp. 481 - 491

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

727.1

108. New types of industrial trade schools, by G. Preisich (Epites--Epitészet" -- Building-Architecture -- Vol. I, No. 3, pp. 26-36, March, 1949)

While at present 9000 industrial pupils are educated at the various trade institutes, by the completion of the Five Year Plan their numbers will have reached 40,000. It is obvious that the building of new schools for the training of youth for industry is highly significant in view of the fact that the shock workers of the new socialist society will come from their ranks.

Problems of developing a new coordinated educational system are treated in detail. So far two types have been developed. While one provides for the trade school within the confines of the plants of the large industries, either with or without special training workshops (as for example, at the Hoffherr Schrantz Works), the other provides for trade schools with model plants attached (as for instance the Foundry Trade School at Vác).

Professional schools for the smaller industries must also be taken into consideration. Schools for some 1800 pupils are being built at Csepel and for 2000 at Diósgyőr. Information on the layout of the above two institutions. Special mention should be made of the school in the Hoffherr Schrantz Works, where the training workshops are an integral part of the factory itself. Information on other apprentice-students' homes concludes the study.

Sedimentation potential of soil suspensions. Miklós Preisch. *Mezőgazdasági Kutatások* 15, 90-6 (1942); *Chem. Zentr.* 1942, II, 1956. With sedimentation of acid soil suspensions, there is formed between 2 layers of the suspension a difference in pH values which increases proportionally with the clay content of the soil. Details are given in the original. J. R. Adams

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

C.A.

13

Domestic mineral raw materials of the Hungarian chemical industries. Miklós Preisich. *Magyar Kém. Lapja* 4, 321-5(1949).—A review. István Finály

PREISICH, M.

Magyar Kemikusok - Vol. 10, no. 5, May 1955.

Report by the secretary general. p. 139.

SO: Monthly list of East European Accessions, (EEAL), LC, Vol. 4, No. 9, Sept. 1955 Uncl.

PREISICH, M.

Some problems of our technical progress. p. 297. Magyar Kemikusok Lapja. Vol. 10, no. 10, Oct. 1955

Source: East European Accessions List, (EEAL), Lc, Vol. 5, No. 2, Feb. 1956

PREISICH, M.

State and tasks of planning in the chemical industry. p. 329. MAGYAR KEMIKUSOK LAPJA. (Magyar Kemikusok Egyesulete) Budapest. Vol 10, No. 11, Nov. 1956

SOURCE: East European Accessions List (EEAL) Library of Congress Vol. 5, No. 6, June 1956

PREISICH, Miklos

An account of the 1960 work of the Hungarian Chemical Society. Magy kem lap 16 no.5:195-196 My '61.

1. Magyar Kemikusok Egyesuletenek fotitkara.

FREISICH, Miklos

The Secretary General's account of the 1962 general meeting of the delegates of the Hungarian Chemical Society. Magy kem lap 17 no.5:193-199 My '62.

1. Magyar Kemikusok Egyesulete fotitkara.

PREISICH, Miklos

Once more about the utilization of possibilities. Musz elet 20 no.8:6 22 Ap '65.

1. Deputy General Director, Chemical Industry Trust, Budapest.

WITTMAN, Istvan, dr. ; PREISICH, Peter, dr.

Drug therapy of colitis ulcerosa (gravis). Orv. hetil. 105 no.15:685-690 12 Ap'64

1. Budapest, VIII. Keruleti Tanacs Balassa Janos Korhaz, I.Belosztaly.

PREISICH, Peter, dr.; PINTER, Zoltan, dr.; BIRO, Gyorgy, dr.

The role of sorbitol dehydrogenase in the diagnosis of liver diseases. Orv. hetil. 104 no.27:1272-1278 Jl 7 '63.

1. Balassa Janos Korhaz I Belosztaly es Magyar Nephadsereg, Egeszsegugyi Szolgalat.
(HEPATITIS) (LIVER CIRRHOSIS)
(JAUNDICE, OBSTRUCTIVE)
(SORBITOL) (DEHYDROGENASES)

HUNGARY

PREISICH, Peter, Dr, PINTER, Zoltan, Dr, BERO, Gyorgy, Dr; Balassa Janos Hospital I. Medical Ward and Hungarian People's Army, Health Service (Balassa Janos Korhaz I. Belosztaly es Magyar Nephadsereg, Egeszsegugyi Szolgalat).

"The Role of Sorbitdehydrogenase in the Diagnosis of Liver Diseases."

Budapest, Orvosi Hetilap, Vol 104, No 27, 7 July 1963, pages 1272-1274.

Abstract: [Authors' Hungarian summary] The Boehringer optical test has been used for the determination of the sorbitdehydrogenase (SDH) enzyme activity in the serum of 40 patients. The authors confirmed the findings of others that the serum of healthy humans contains only traces of SDH. This is a liver-specific enzyme which appears in the serum in considerable concentration during acute liver diseases. Chronic liver deficiency cases show normal or slightly elevated values. The SDH graph shows a curve similar to that of transaminase. Its determination is simple. All Western references.

SOLTI,F.; GLAUDER,O.; FEHER,G.A.; PREISICH,P.; KASSAY,G.

Effect of sodium lactate in conduction disturbances of the heart with special respect to overdigitalization. Acta med. hun. 14 no.4:405-413 '59.

1. The 1st Department of Medicine, Univrrsity Medical School, Budapest.
(LACTATES pharmacol.)
(HEART DISEASES ther.)
(DIGITALIS toxicol.)

PREISICH, Peter, dr.

Experience with the use of a new Hungarian ganglionic blocking agent "Synapleg". Orv. hetil. 103 no.4:172-175 Ja '62.

1. Balassa Janos Korhaz, I Belosztaly.

(AUTONOMIC DRUGS therapy)

SOLTI, F.; PETER, A.; ISKUM, M.; HERMANN, R.; PREISICH, P.

Studies of the cerebral circulation and cerebral metabolic changes in man: The method of investigation. Acta med. hung. 17 no.2:117-125 '61.

1. 1st Department of Medicine (director: professor I.Ruszyak) and Department of Neurology (director: professor B.Horanyi), University Medical School, Budapest.
(BRAIN blood supply) (CEREBROVASCULAR DISORDERS physiol.)

SOLTI, F.; REV, J.; PREISICH, P.; KOLTAY, E.

Effect of nicotine on sweating. Acta med.hung.16 no.3:233-236 '60.

1. Medizinische Klinik der Medizinischen Universitat, Budapest.
(SWEATING pharmacol)
(NICOTINE pharmacol)

S/262/62/000/016/004/009
I011/I211

AUTHOR: Preiskorn, G.

TITLE: A gas-turbine plant

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk. 42. Silovyye ustanovki, no. 16, 1962, 31 abstract 42.16.235 P. (GDR patent, class 46f, 12, no. 21967, September 21, 1961)

TEXT: A gas turbine design is proposed in which the combustion chamber is placed between the compressing and power turbines while the regenerator is placed immediately behind the combustion chamber in front of the power turbine. It is held that the efficiency of all the plant is increased by this location of the heat exchanger in spite of the lower temperature at the power turbine input; furthermore the dimensions of the heat exchanger which is placed in a high pressures region are decreased. The air compressed in the compressor is warmed up in the regenerator and expands in the compressor turbine. Then the air flow is divided. Part of the air is heated in the combustion chamber and passes through the regenerator transferring the heat to the compressed air which goes into the compressor turbine. The other portion of the flow passes by the combustion chamber and is mixed with the gas that passed that chamber before the second part of the regenerator or behind it before of the power turbine.

[Abstracter's note: Complete translation.]

Card 1/1

PREISLER, E.; PANKOWSKA, U.

Changes of the cholesterol concentration of the total lipids and of glucose in the serum under the influence of physical exertion of long duration. Bull. Soc. amis sc. Poznan [med] Ser. no.12:61-70 '63.

PREISLER, E.; KABZA, R.

Concentration changes of some human serum electrolytes and iron in consequence of physical efforts. Bull. soc. amis. sci. Poznan [med.] 13 :85-93 '64

PREISLER, Eligiusz

Effort changes of the electrocardiographic curve. Polski tygod.lek. 15 no.43/44:1674-1679 24 O '60.

1. Z Pracowni Medycyny Sportu II Kliniki Chorob Wewnetrznych A.M. w Poznaniu; kierownik Kliniki: prof.dr med. J. Roguski.
(ELECTROCARDIOGRAPHY)
(EXERTION)

PREISLER, ELIGIUSZ

BOLECHOWSKI, Feliks; PREISLER, Eligiusz

Effect of states during start of the competition and of prolonged efforts in skiers on electrocardiographic picture. Poznan. Tow. przyjaciol nauk. Wydz. lek. 10 no.10:1-42 1954.

1. Z II Kliniki Chorob Wewnetrznych A.M. w Poznaniu. Kierownik: prof. dr J.Roguski i Glownej Poradni Sportowo-Lekarskiej w Warszawie. Dyr. dr Z.Zajacskowski.

(ATHLETICS,
*ECG in skiers)
(ELECTROCARDIOGRAPHY,
*in skiers)

PREISLER, H.; VINTNER, F.

Design of carbide tools for intermittent working. p. 831. (STROJIRENSTVI, Vol. 6, No. 12, Dec 1956, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 12, Dec 1957. Uncl.

PRESSEK

14593* Evaluation of the Present State of Machining With Sintered Corundum. Zkušenosti z obrábění se slinutým korundem. (Czech.) F. Vintner and J. Preisler. *Strojírenství*, v. 5, no. 3, Mar. 1955, p. 199-203.

Effect of quality and cutting angles of disks on cutting power; recommendations based on Czech and Soviet plant practice; use of ceramic disks in discontinuous machining; face-milling of cast iron; durability of ceramic milling cutters and knives. Diagrams, graphs, table. 5 ref.

PREISLER, J., inz.

Milling machines with digital control. Stroj vyr 9 no.5:223-229 '61.

1. Vyzkumny ustav obrabecich stroju a obrabeni, Praha.

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1.5100 2908 also 1068, 1089

Z/031/61/009/005/001/004
D007/D102

AUTHOR: Preisler, J., Engineer

TITLE: Numerically controlled milling machine

PERIODICAL: Strojírenská výroba, v. 9, no. 5, 1961, 223-229

TEXT: The author explains the principle of numerical machine control and describes the working model of a numerical control system built by the VÚOSO for a FA3V milling machine. The block schematic of the control system is shown in Fig. 3. The punched tape is fed to the reading device (ČJ) which reads each block (containing 13 transversal rows of 1-5 holes, each row representing one number or sign) and transmits the information to the linear interpolator (LI). The interpolator produces a corresponding number of impulses and feeds them to the differentiation element (DČ). The table movement is tracked by an electro-optical gage (OZ) which produces one impulse for each 1/100 mm of table feed. These impulses are fed back to the differentation element which compares them with the impulses coming from the linear interpolator. The impulse difference appears

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as polarity and magnitude of the output voltage which controls the electro-hydraulical system (SPH) of the table feed. The electro-optical gage (Fig. 4) consists of a glass scale (3) with 0.04 mm graduation, attached to the table. A similar shorter scale, rigidly mounted in front of the table scale, has two fields of gage marks, mutually shifted by 0.02 mm, each in front of a photocell (4). As the table-gage moves, the light rays of the lamp (1) are alternately interrupted according to the position of the marks on both scales. The photocells convert the interrupted light rays into electrical impulses. Two photocells are used to control the two directions of the table feed. To save costs and space, one interpolator can be used to process the programs of several machine tools and the individual programs are then recorded on magnetic tapes. The magnetically recorded programs can easily be checked and arbitrarily played back on a tape recorder which is an integral part of each numerically controlled machine tool. A working model of such a numerical control system was built by the VÚOSO for a FA3V milling machine. The machine has continuous longitudinal and cross feeds of the table. The tailstock feed is not continuous, but can be hydraulically adjusted

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to six various vertical positions controlled by a system of stops. When the tailstock is lifted, the drum with the stops turns and the tailstock engages with the next stop preset to the desired height. Numerically controlled milling machines are used for single-piece or small-batch machining of parts with intricate shapes. The program can be established either by calculation (for simpler shapes with high precision requirements), or from an enlarged tool-path, drawn on cross-section paper, as shown in Fig. 7. An accuracy of 0.1 mm, sufficient for most cases, can be achieved by the latter method when a 5 : 1 enlargement is used. Both programming methods can also be combined. To avoid preparing two programs in cases where a part must be roughly machined prior to finish machining, only one program is established for the diameter of the finishing tool, and smaller-diameter tools are used for roughing, to retain the finishing allowance. No system has yet been developed in the ČSSR which allows correction of once established programs for changed tool diameters. Worn tools must be ground to precise dimensions, for which a new program must be prepared. The complete, checked program is recorded on a paper tape in a code as used in teletypewriting, where

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each number or sign is expressed by a combination of 1 - 5 holes, transversally punched on a 17.5 mm wide paper tape. These tapes are punched on a form of teletypewriter which automatically punches the correct code as each key is depressed and then shifts the tape. At first a special sign is punched at the beginning of the tape which is not registered by the reading device and merely serves the proper insertion of the tape into the reading device. Subsequently all 13 numbers of the first and all subsequent blocks are punched, plus a sign at the end of the last block which stops the operation of the interpolator. It is recommended to cross-check two punched tapes of the same program, since an error would cause rejects and possibly even machine damage. A modified teletypewriter provides a typed copy of the punched information for checking the punching accuracy. The most reliable check, however, is an idle working cycle performed according to the newly established program. If the indexing plates of table-feed screws return to zero after completion of one cycle, the program is correct. The following results were obtained with the new machine: The time required for the preparation of the program ranged from 30 to 180 min, but it is expected that the prepara-

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tion of complex programs will be reduced by using tables with calculated values for substituting a polygon for a circle; computing machines, etc. The time required for setting the machine ranged from 12 - 30 min, which is considered short, especially when existing programs can be used in repeated operations. The absolute accuracy (i.e. deviation of dimensions of the produced part from the blueprint) in removing a thickness of 0.5 mm from the workpiece averaged 0.05 mm, best results being from 0.01 - 0.03 mm; the relative accuracy (i.e. the deviation of dimensions between individual parts) was approximately 0.03 mm. For very precise machining, tools should be sharp, working allowances should be small, and precise tool diameters and untrue run should be considered already in programming. In addition to the FA3V milling machine, the prototype of a numerically controlled FA4V-N milling machine was completed in late 1960. This machine has continuous control also of the 3rd coordinate (Z), enabling continuous tool-feed in all three coordinates, in planes given by the axes XY, XZ and YZ. Also, the FRJ 5 plano-milling machine was equipped with a numerical control system using a linear interpolator. The table and the spindle feeds of this machine are

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simultaneously controlled. In conclusion the author summarizes the advantages of numerically controlled machine tools as follows: (1) They permit the automation of single-piece and small-batch production; (2) They are especially suitable for machining products of complicated shapes to close tolerances; (3) The preparation of programs requires comparatively little time; (4) The operation of these machines is simple. However, they require an elaborate work organization and highly qualified maintenance personnel. There are 10 figures and 1 table.

ASSOCIATION: Výzkumný ústav obráběcích strojů a obrábění, Praha (Research Institute of Machine Tools and Machining, Prague).

Card 6/8

PREISLER, J.; KOLOC, J.

Carbide tools on multispindle automatic machines. p. 347.

STROJIRENSKA VYROBA. Praha, Czechoslovakia. Vol. 7, no. 8, August 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 11, November 1959.

Uncl.

PREISLER, J.

Boosting of productivity of multispindle automatic lathes by cutting down auxiliary times. p. 11

CZECHOSLOVAK HEAVY INDUSTRY. (Ceskoslovenska obchodni komora) Prague, Czechoslovakia No. 3, 1959

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 7, July 1959
Uncl.

PREISLER, J. ; KOLOC, J.

"Strength of cutting tools made of sintered carbides." p. 751.

STROJIRENSTVI. (MINISTERSTVO TEZKEHO STROJIRENSTVI, MINISTERSTVO PRESNEHO STROJIRENSTVI A MINISTERSTVO AUTOMOPILOVEHO PRUMYSLU A ZEMEDELSKYCH STROJU.) Praha, Czechoslovakia, Vol. 5, no. 10, Oct. 1955.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 9, September 1959. Uncl.

PREISLER, J.

The wear of sintered carbide blades on cutting tools. p. 273. (Strojirenstvi, Vol. 7, No. 4, Apr 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 8, Aug 1957. Uncl.

2539* Strength of Sintered-Carbide Cutting Inserts. **Pevnost břitových destiček ze slinutých karbidů.** (Czech.) J. Koloc and J. Preisler. Strojírenství, v. 5, no. 10, Oct. 1955, p. 751-755. Effect of different moduli of elasticity of cutting tip and tool shank. Factors affecting life of cutting tools. Photographs, tables, graphs, diagrams. 7 ref

PTEISLER, J.

Experience in metalworking with sintered corundum. p. 189.

STROJIRENSTVI Vol. 5, no. 3, Mar. 1955

Czechoslovakia

Source: EAST EUROPEAN LISTS Vol. 5, no. 7 July 1956

PREISLER, J.

"Road to Success in Cross-Country Racing." p. 26
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"Twenty-eighth International Six-Day Motorcycle Races in Czechoslovakia." p. 29
(Svet Motoru, Vol. 7, no. 137, Jan. 1953, Praha)

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TITLE: Program-Controlled Milling Machines With Rectangular Cycle

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TEXT: The article contains detailed information on the program control of the "FB" knee-type milling machine, including necessary instruments and mechanisms. Program-controlled machine tools, produced lately in the ČSR include the "SP 31" and "SP 25" semi-automatic lathes, the "FB 40" knee-type milling machine with rectangular cycle controlled by stops (Photo 1) and "FRM 6" and "FRO 8" plano-milling machines. The ČSR is also developing or completing prototypes of: a semi-automatic, punched-tape controlled duplicating lathe, a horizontal drilling machine with automatic coordinate adjustment, a numerically controlled turret lathe, a knee-type milling machine with simplified numerical feed control, a numerically controlled knee-type milling machine with a general cycle, etc. Program-controlled milling machines, produced in the ČSR, can be classified in 3 groups: 1) Such with an automatic rectangular cycle; 2) such with numerical control; and 3) such with template control and arbitrary cycle repetition. The

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automatic rectangular cycle (Flow chart 2) permits only one feed direction at a time and feed distances are adjusted either by separately set stops or are part of the program, recorded on the punched tape. Both control systems are used in "FB" knee-type milling machines. The program of the automatic cycle is punched on a tape (perforated 35 mm standard film), which passes through a reading mechanism. This reading mechanism (Photo 3 and Fig. 4) is standardized and can be used in any Czechoslovak punched-tape controlled machine tool. Its main feature is a block of 80 spring-cushioned pins and a contact plate pressed against the pins, between which the punched tape passes. The pins are arranged in 5 longitudinal rows of 16 pins each, covering a tape section of 76 x 35 mm which is called "the block". The reading mechanism is equipped with an asynchronous motor, coupled to the camshaft by an electromagnetic, single-revolution clutch, which engages as soon as the tape-feed relay disconnects the pins from the voltage source, whenever a moving part of the machine reaches its desired position. The end cam of the shaft removes the contact plate from the pins and releases the tape which is then shifted forward by the length of the next block. The plate returns into its original position, the pins are reconnected to the voltage source and the camshaft stops in its basic position. This entire cycle requires

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0.2 sec, during which the punched information is not accessible and all motions, besides the ones marked "continuous" are stopped. Lengths of punched-tape blocks of "FB" knee-type milling machines differ according of the feed control method employed. In case of control by stops, the block (Fig. 5) is only 28.5 mm long and contains 5 longitudinal rows of 6 pins each. The block is divided into 2 sections. Functions of section 1 are: "B" - stop in case of tape rupture (not punched); "K, K" - stop in case of incorrect step (always punched); "ZS" - change of feed direction; "KON" - continuous operation; "SC" - stop of cycle; "± X, Y, Z" - coordinates and direction of table feed; "RP" - rapid feed; "PP" - working feed; "DP" - infeed; "+A, -A" - correction of another tool diameter; "SK" - lowering of the bracket; and "ZK" - lifting of the bracket. The "+A, -A" punches are only used in simplified numerical feed control and serve the correction of ± 1 mm deviations of tool diameter. In case of a simplified numerical feed control (without mechanical stop), the 76-mm-long block with all 80 pins is used (Fig. 6). The functions of the first two sections are the same as listed above, an additional third section serves the numerical presetting of feed lengths. Its pins are connecting the contact plate with an electronic impulse instrument, the so-called "decatronic evaluator" which generates a number of im-

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pulses according to the number punched on the tape. Each impulse represents a feed of 0.01 mm. The decatronic evaluator compares the preset number of impulses with the number of impulses received from the gauging device during the feed, and stops the motion when both numbers coincide. The evaluator is common for all feeds and is switched-over to the subject axis by a relay. The program of a rectangular working cycle with stop-controlled feed is set as follows: At first, the cutter head is brought into starting position which is also reference point. All dials are set to zero and the speed of the working feed and the tool rotation are preset. Feed directions are adjusted with an individual stop system for each direction sense. Stops are placed at every point where speed or direction must change (Figs. 8a and b). Additional stops, 'void' or 'idle' stops, are placed in more complicated cycles (Fig. 9). These stops are put out of function by "continuous operation" marks of corresponding blocks. The tapes are punched according to a program chart (Table 1). For this purpose, a manual punching device (Photo 10) may be used. It consists of a grid plate with 80, correspondingly marked holes and a sled with a stop for correct dimensioning of the block. There are 3 photos, 7 figures and 1 chart.

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