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ASSOCIATION: Institute of Organic Chemical Technology, Technical University,  
Budapest; Institute of General Chemistry, Technical University, Budapest

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Card 2/2

G/002/62/000/009/001/001  
D287/D307

AUTHOR: Paulik, Ferenc. Paulik, Jenö and Erdey, Laszlo

TITLE: Derivatography

PERIODICAL: Chemische technik, no. 9, 1962, 533-537

TEXT: The derivatograph, constructed by the authors, is an automatic recording device for the thermal analysis of solid or liquid samples. Weight changes due to heat and the rate at which these changes proceed and the variations in the enthalpy and the temperature of one sample are recorded simultaneously. The relationship between the chemical composition and the crystalline structure of substances can be determined with a higher degree of accuracy than with hitherto used methods; thermal reactions within the sample can also be elucidated by this method. Derivatograms give results obtained during tests on bauxite samples and during the microdistillation of water. The authors refer briefly to previous investigations on minerals, ores, solid fuels and building materials, on the heat-sensitivity of catalysts and thermal properties.

Card 1/2

PAULIK, F.

✓ Derivatographic study of potassium hydrogen phthalate.  
R. Belchej, L. Erdey, F. Paulik, and G. Lipthy (Tech.  
Univ. Budapest, Hungary), *J. Polym. Sci. A-2*, 7(1969).—Deriva-  
tographic measurements showed that the decompn. of  $C_8H_5COOHCOOK$ , which is often used as a primary standard,  
begins at 190-200°. The nonhygroscopic prepn. can be  
dried at 100-150°. Decompn. proceeds in 3 steps, the rate  
depending on the rate of increase of temp.  $C_8H_5(COOK)_2$  is  
formed first, phthalic anhydride and water being removed.  
Enthalpy changes also can be obtained from the derivato-  
grams; this yields information on the further mechanism of  
thermal decompn. and changes of state of the sample.

Bella L. Rosenfeld

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TJ(NB)

PAULIK, F.

HUNGARY / Chemical Technology. Chemical Products and Their Applications. Chemical Processing of Solid Fossil Fuels. H

Abs Jour: Ref Zhur-Khimiya, 1959, No 4, 13065.

Author : Paulik, F.; Weltner, K.

Inst : Not given.

Title : On Differential Thermogravimetric Analysis of Peat and Its Components.

Orig Pub: Acta chim. Acad. scient. Hung., 1958, 16, No 2, 159-184.

Abstract: A series of peat (P) samples, humates as well as cellulose, lignin and other materials of vegetative origin was investigated by the method of differential thermogravimetry (DTG) which permits fixing the weight change of the sample with the change of furnace temperature. Thanks to the fact that the

Card 1/2

83

PAULIK, FERENC

Derivative thermogravimetry, Ferenc Paulik and Laslo Erdely (Tech. Univ., Budapest). *Acta Chim. Acad. Sci. Hung.* 13, 117-39(1957).—Deriv. thermogravimetry is shown to possess considerable advantages over simple thermogravimetry when consecutive reactions or reactions involving small losses in wt. occur. The use of both of these methods and differential thermal analysis on a no. of bauxites and cryolites,  $ZnSO_4 \cdot 7H_2O$ ,  $Fe(OH)_3$ ,  $BaSO_4$ , kaolin, and mixts. of  $ZnO$  and  $Zn(PO_3)_2$  are presented.

Mark M. Jones

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gk

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FAULST, T.

16. Recent results of derivative thermogravimetry. (In German) F. Paulk, L. Erdey. *Acta Chimica Academiae Scientiarum Hungaricae*. Vol. 13, 1957, No. 1-2, pp. 117-140, 19 figs. H

Investigations carried out so far by the method of derivative thermogravimetry proved that the derived curve facilitates the evaluation of the difficultly interpretable basic curves. Processes taking place in rapid sequences in the substance investigated or reactions causing very small losses of weight may readily be detected by this method with a high degree of sensitivity. The temperature of the maximum of the derived curve clearly defines the reaction under examination. If the values of the initial and final temperatures of the reaction are plotted on the basic curve precise stoichiometric calculation can be made. Very significant conclusions can be drawn from the comparison of the curves obtained by derivative thermogravimetry with those by differential thermoanalysis. Results of investigations by derivative thermogravimetry of various analytical precipitates, bauxites, alumina hydrates, red muds, cryolite and catalysts are discussed. E  
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Distr: LERc(j)

23. Precipitate exchange reactions in analytical chemistry, IV\*. (In German) L. Erdely, E. Hányai, P. Paulik. *Acta Chimica Academiae Scientiarum Hungaricae*. Vol. 13, 1958, No. 3-4, pp. 453-463, 8 tabs.

Subsequent to the theoretic discussion of the exchange of chloride by mercury(II) iodate the practical conditions of the method of determination on this basis are discussed. Between certain limits of concentration the main reaction between mercury iodate and chloride ions proceeds without any side reactions. However in solutions of higher concentration a  $HgCl_2^+$  complex whereas in solutions of lower concentration a  $HgCl_4^{2-}$  complex forms in addition to  $HgCl_2$ . The formation of the  $HgCl_4^{2-}$  complex liberates less iodate and that of the  $HgCl_2^+$  complex, in turn, more iodate than expected on the basis of the main reaction. The determination of chloride may be carried out also on a micro scale in the presence of alcohol and under adequate conditions. Bromide, iodide and cyanide ions may be similarly determined in this way.

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PAULIK, F.

SCIENCE

PERIODICAL: ANNALES DE CHIMIE, Vol. 1, no. 2, 1957

Paulik, F. Derivative thermogravimetric analysis of peats and peat constituents.  
In German. p.177.

Monthly list of East European Accessions (EMEA) 14, Vol. 2, no. 2,  
February 1957, unclass.



F. Paulik

Distr: 4E3d

7

Derivatographic microdistillation method for investigating liquid mixtures. F. Paulik, L. Rády, and S. Gal (Tech. Univ., Budapest, Hung.). Z. anal. Chem. 163, 321-9 (1953); cf. C.A. 52, 13325f. — The use of temp.-wt. curves and deriv. curves provides a complete description of the course of a distn. Mixts. studied were C<sub>4</sub>H<sub>10</sub>-EtOH-H<sub>2</sub>O, Me<sub>2</sub>CO-H<sub>2</sub>O, Me<sub>2</sub>CO-EtOH, n-BuOH-H<sub>2</sub>O, C<sub>4</sub>H<sub>10</sub>-n-BuOH-H<sub>2</sub>O, and aviation gasoline. Quant. analysis is simplified by using a 0-g. sample. K. G. Stone

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PAULIK, F.; ERDEY, L.

"Recent results of derivatives thermogravimetry."

p. 15 (Kozlemenyel) Vol. 9, no. 1, 1957  
Budapest, Hungary

SO: Monthly Index of East European Accessions (EEAI) IC. Vol. 7, no. 4,  
April 1958

PAULIK, E

12. Derivative thermogravimetry, a new thermogravimetric procedure. (In German) L. Erde, E. Paulik.  
L. Paulik: *Acta Chimica Academiae Scientiarum Hungaricae*, Vol. 10, 1956, No. 1-4, pp. 51-97, 24 figs.

A new procedure was developed by the authors for the thermogravimetric investigation of analytical precipitates and other substances. A permanent magnet serving as the core of a fixed coil was suspended from the beam of a thermobalance. The potential of the current induced was then found proportional to the weight changes occurring in a pyrolysis process. The readings taken on a galvanometer in this circuit will yield a derivative of the thermogravimetry (pyrolysis) curve. An aperiodic automatic balance was furnished with this device and the thermal analysis of several important industrial and agricultural products, raw materials and analytical precipitates was carried out. These derivative curves were qualitatively characteristic of the decomposition processes occurring in each substance. The computation of the systematic error of the method and its experimental determination are discussed. Several examples are given to prove the practical usefulness of the method.

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Rosen

MT

PAULIK, F.; ERDEY, L.

Thermic investigation of precipitations. Pt. 1. Metal oxalate precipitates.  
Pt. 2. Aluminum hydroxide precipitates. p. 461. KOZLEMENYEI. Budapest.  
Vol. 5, no. 4, 1955.

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

PAULIK, J.

A new thermal method: derivative thermogravimetry.  
 L. Brady, F. Paulik, and J. Paulik (Tech. Univ., Budapest).  
*Acta. Chim. Hung. Sci. Hung.* 10, 61-67 (1956) (in German)  
 (English summary); cf. C.A. 50, 3952e. — A thermogravimetric app. is described and illustrated in which the sample under study is heated in an elec. oven; the temp. of the latter is increased at a const. rate. The sample is contained in a Pt crucible at the end of a rod, the lower end of which is attached to one side of an aperiodic balance. On the other side is suspended a magnet that is surrounded by a solenoid connected to a galvanometer. The deflection of the galvanometer is plotted with respect to time; it is proportional to the rate of change in wt. of the sample. Graphs are derived for  $CuSO_4 \cdot 5H_2O$ ,  $Al_2(SO_4)_3 \cdot 18H_2O$  (I), Kalam (II), hydrazylite, artificial bohemite (III),  $Al_2O_3 \cdot xH_2O$  (IV),  $Al(OH)_3$  gel (V),  $MgCO_3$  (in  $CO_2$  atm.), Zn anthranilate (VI) (in  $CO_2$  atm.), coal (in air and in  $N_2$ ), Beechwood (in  $N_2$ ), and cellulose (in  $N_2$ ) in the temp. range 0-1000°. I loses 3 mols.  $H_2O$  at room temp., 12 mols. at 140°, and the remaining 3 mols. at 280°.  $SO_4$  is lost at 850°. In II, 4 mols.  $H_2O$  are attached to K, 6 to Al, and one each to the  $SO_4$  ions. III, IV, and V are extensively discussed. VI loses half its org. content at 340°, probably forming  $C_{12}H_{10}COOZnNH_2$ .

L. W. Lowenberg, Jr.

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PAULIK, F.; ERDEY, L.

Thermal analysis of precipitates. I. Metal oxalate precipitates. II, Aluminum hydroxide precipitates. In German. p. 27.

Vol. 7, no. 1/2, 1955

SOURCE: Monthly list of East European Accessions, (EEAL), LC, Vol. 5, No. 3, March 1956

PAULIK, F.

HUNG

17. Determination of sulphur in sulphates by pyro-  
lytic decomposition (In German) — by Erdex and  
F. Paulik. (Acta Chimica Academiae Scientiarum  
Hungaricae — Vol. 4, 1153, No. 1, pp. 37-53)

The method evolved by the authors is based on the observation that the SO<sub>2</sub> content of sulphates, which generally dissociate only at extremely high temperatures, can be liberated readily by heating sulphates with acidic pyrophosphates or metaphosphates. When this reaction is carried out in a Grote-Krekeler apparatus and an air current is led through it, the liberated SO<sub>2</sub> can be collected in water containing a small amount of sodium chlorate. Sulphuric acid formed in the solution can be titrated or determined by gravimetry after precipitation in the form of barium sulphate. The great advantage of this method is that it offers the possibility of separating SO<sub>2</sub> from various other interfering ingredients and thus it lends itself readily for the determination of sulphur in sulphates insoluble in acids as well. Thus the difficulties experienced with the sodium carbonate treatment are eliminated. This method elaborated by the authors is especially suited for the determination of sulphur in various industrial basic materials e.g. baryte, slag, coal ash, roasted pyrites, superphosphate, etc.

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PAULIK, F.

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15398\* (Problem of Composition of Precipitated Barium Sulfate.) Beitrag zur Frage der Zusammensetzung des Bariumsulfate-Niederschlags. 1. J. J. J. and F. Paulik, Acta Chemica Academiae Scientiarum Hungaricae, v. 4, no. 4, 1934, p. 37-110.

Determines causes of nonhomogeneity in composition of BaSO<sub>4</sub> precipitates. Graphs, tables. 26 ref.

① PA 21



PAULIK, F.

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Determination of sulfur in sulfates by pyrogenic decomposition. L. Egey and F. Paulik (Tech. Univ., Budapest). *Acta Chim. Acad. Sci., Hungarica* (1934) (in German). Fusion of a sample contg. 0.15 g.  $SO_3$  at  $1000^\circ$  with 1.2 g. of anhydrous  $Na_2PO_4$  gives a quant. yield of  $SO_2$ . A special app. is described for absorbing the  $SO_2$  in 0.1%  $Na_2IO_3$  soln. The  $H_2SO_4$  can be estd. volumetrically or gravimetrically. Fluoride requires the addn. of  $B_2O_3$  to the melt and decompn. of HBF<sub>4</sub> previous to detg.  $SO_2$ . Anions which yield volatile acids or anhydrides require excess  $Na_2PO_4$ . The method was applied to the sulfates of Ca, Sr, Ba, Mg, K, Na, Mn, and Cd, and to high furnace slag, coal ash, roasted pyrites, and superphosphate. K. G. Stone

PANLIK, F.

Composition of precipitated barium sulfate. L. Enley and F. Paulik (Tech. Univ., Bukarest). *Acta Chim. Acad. Sci. Hung.* 97-110 (1954) (in German).--The results of Fischer (C.A. 46, 1380z) were confirmed. BaSO<sub>4</sub> ppts. were analyzed and the gases evolved on ignition were analyzed. The loss of H<sub>2</sub>SO<sub>4</sub> is significant. The best crystals and results are obtained when BaSO<sub>4</sub> is pptd. from solns. with a pH of 0-1. The addn. of SO<sub>4</sub><sup>2-</sup> to Ba<sup>++</sup> is recommended. BaSO<sub>4</sub> pptd. in neutral soln. contains much H<sub>2</sub>O. K. G. Stone

PAULIK, F.

Differential thermogravimetry. I. Ertley, H. Paulik, and J. Paulik (Tech. Univ. Budapest), *Mikrochim. Acta* 1954, 883-6 (1954).—The deriv. of the thermogravimetric curve is obtained by measuring the current produced by the displacement of a permanent magnet attached to the beam of a thermobalance. Curves are plotted for gibbsite and Zn oxalohydrate and compared to the curves for differential thermal analysis and thermogravimetric analysis. The advantages of differential-thermogravimetric analysis are outlined. A similar method described by de Keyser (*C.I.* 43, 389c) gives a ratio of finite increments rather than a deriv. B. P. Block

PAULIK, J.

Differential thermogravimetry. I. Erdelyi, J. Paulik, and J. Paulik (Tech. Univ. Budapest, *Nature* 174, 820-81054). The deriv. of the thermogravimetric curve is obtained by measuring the current produced by the displacement of a permanent magnet attached to the beam of a thermobalance. Curves are plotted for gibbsite and Zn carbonate and compared to the curves for differential thermal analysis and thermogravimetric analysis. Advantages of differential thermogravimetric analysis are outlined. A similar method described by de Keyser (*C.I.* 48, 3008c) gives a ratio of finite increments rather than a deriv. B. P. Block

PAULIK, F.

1926. Determination of sulphur in sulphates by  
pyrolytic decomposition. L. Enay and F. Paulik.  
(*Acta. Chim. Hung.*, 1954, 4 (1), 37-38).-- Liberation  
of  $\text{SO}_2$  present in sulphates that generally dis-  
sociate only at a high temp., is effected by heating  
with  $\text{Na}_2\text{H}_2\text{P}_2\text{O}_7$  or  $\text{NaPO}_3$ . The gas is carried in an  
air current in a Grote-Kreker apparatus into  
water containing a little  $\text{NaClO}$ , and determined  
volumetrically or gravimetrically as  $\text{BaSO}_4$ . The  
method is particularly suited to the determination  
of S in industrial materials such as barytes, furnace  
slag, coal ash, roast pyrites and superphosphate.

H. WREN

PAULLIK, F

2252. Composition of the barium sulphate precipitate. L. Edey and F. Paullik *Acta Chim. Hung.* 1954, 4 (1), 97-120. Various types of  $\text{BaSO}_4$  were prepared under different conditions, beginning with accurately known quantities of  $\text{H}_2\text{SO}_4$  and  $\text{BaCl}_2$ . The ppt. obtained were weighed after drying and after ignition in the Grotz-Krueger apparatus. Loss on ignition and content of volatile ingredients were also determined and complemented by direct determination of  $\text{H}_2\text{O}$ . The composition of the ppt. depends greatly on the conditions of pptn. and on the quantity and nature of the anions and cations present. Hydrogen-ion concn. greatly affects crystal form and composition of pptd.  $\text{BaSO}_4$ . When the wt. of the ignited ppt. is corrected by a value corresponding to the quantity of volatile  $\text{H}_2\text{SO}_4$ , expressed as  $\text{BaSO}_4$ , data closely approximating theoretical values are obtained, so confirming that variations in the composition and wt. of pptd.  $\text{BaSO}_4$  are chiefly due to the escape of volatile ingredients—primarily the volatile  $\text{H}_2\text{SO}_4$ . In a reversed pptn., the wt. of the ignited ppt. yields correct values. High H-ion concn. affects favourably the pptn. of  $\text{BaSO}_4$ . The composition of the ppt. approaches the theoretical value at pH 0 to 1, whereas the greatest differences are shown at pH  $\approx$  2. In a neutral medium the ppt. shows a strikingly high water content. The crystal structure of the ppt. varies with variation in chemical composition. H. WARR

PAULIK, F.

"Data on the Problem of the Composition of Precipitated Barium Sulfate." p. 97, Budapest, Vol. 4, no. 1, 1954.

SO: East European Accessions List, Vol. 3, No. 9, September 1954, Lib. of Congress

PAULIK, F.

"Determination of Sulfur in Sulfates by Pyrogenic Decomposition." p. 37. Budapest, Vol. 4, no. 1, 1954.

SO: East European Accessions List, Vol. 3, No. 9, September 1954, Lib. of Congress

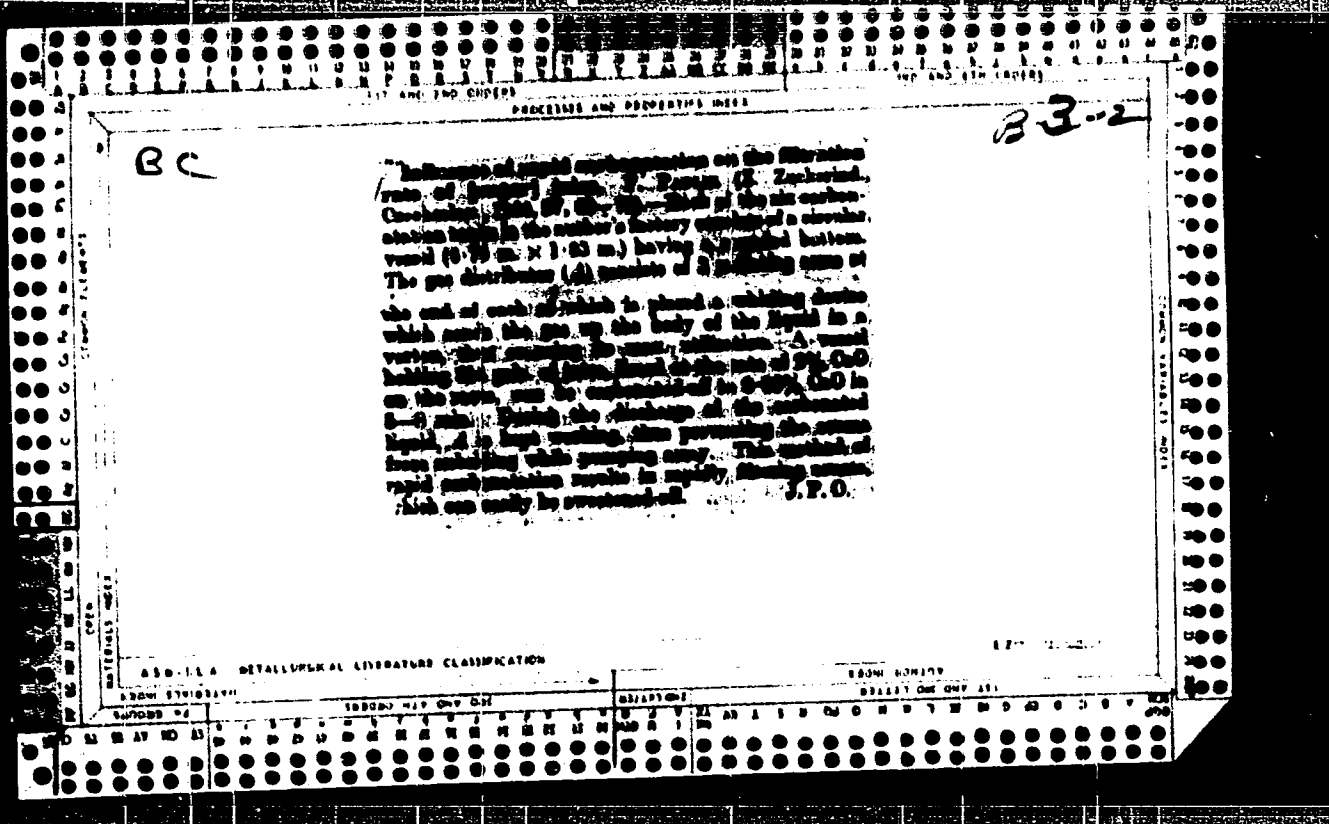
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Ferenc (Budapest, XI., Gellert ter 4); BUZAGH-GÖRÖG, Iva (Budapest, XI., Gellert ter 4); POLCS, Laszlo (Budapest, XI., Gellert ter 4)

Derivatographic and electron microscopic analysis of barium sulphate precipitates. Pt. 2. Acta chimica Hung 41 no. 1/2: 109-122 '54.

1. Institut für allgemeine Chemie der Technischen Universität Budapest. 2. Mitglied, Redaktionskollegium, "Acta Chimica Academiae Scientiarum Hungaricae" (for Erdey).





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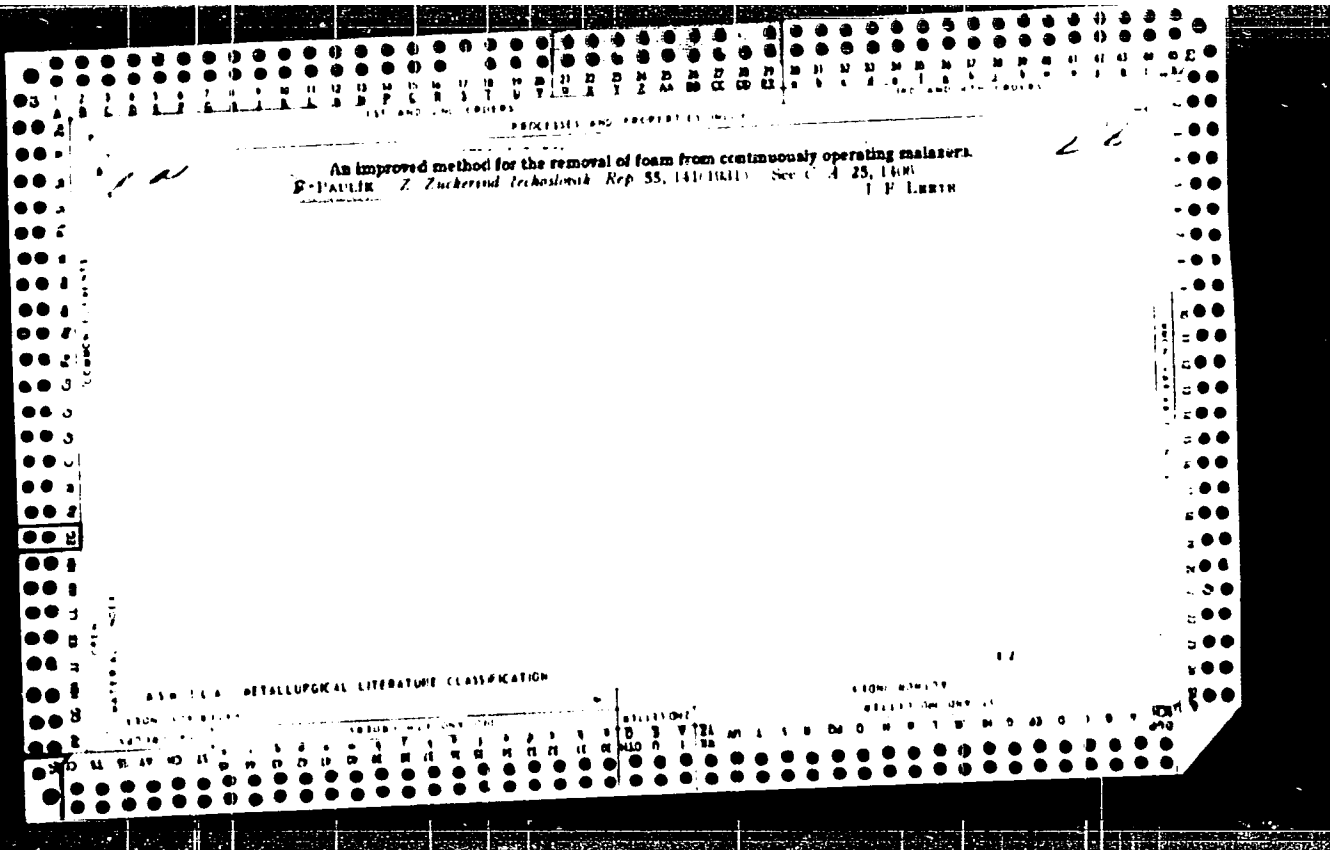
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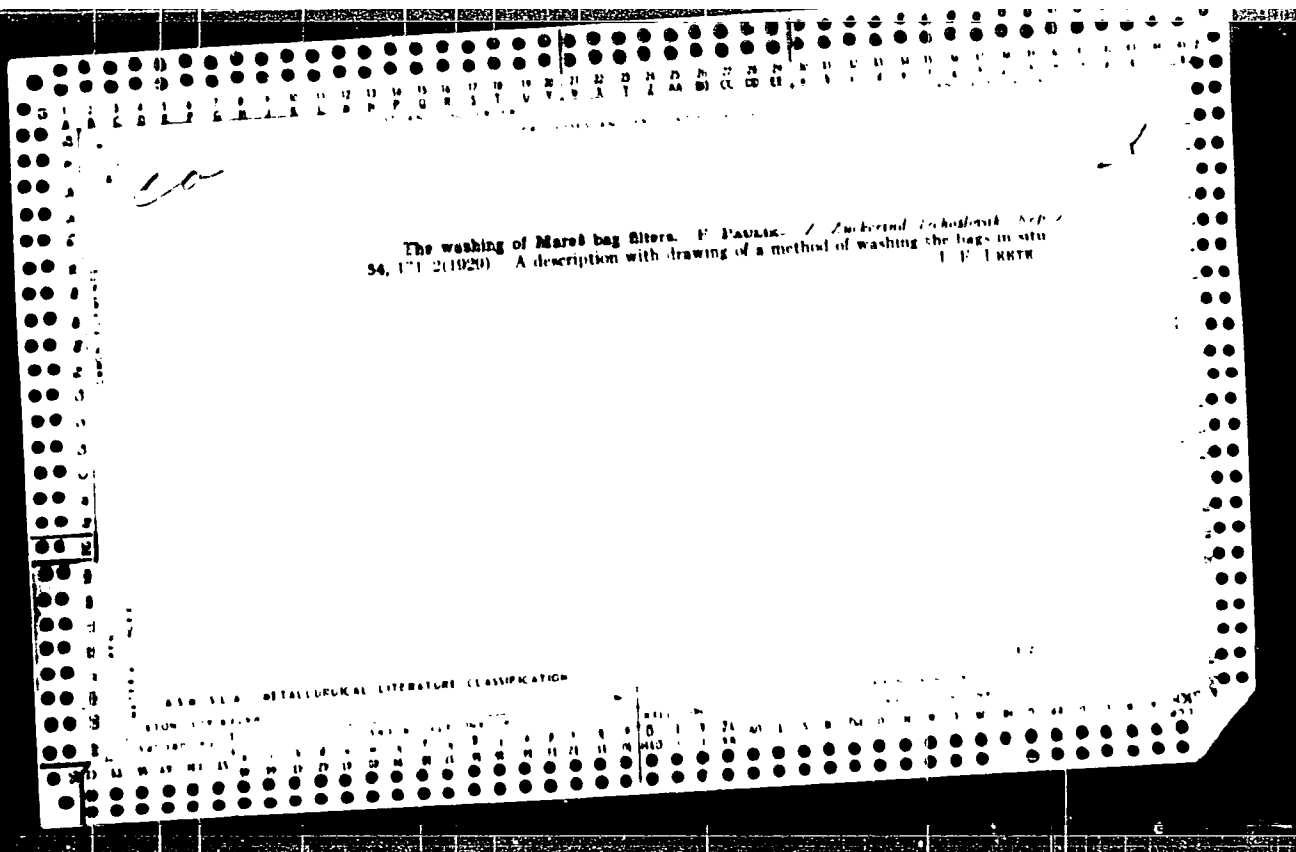
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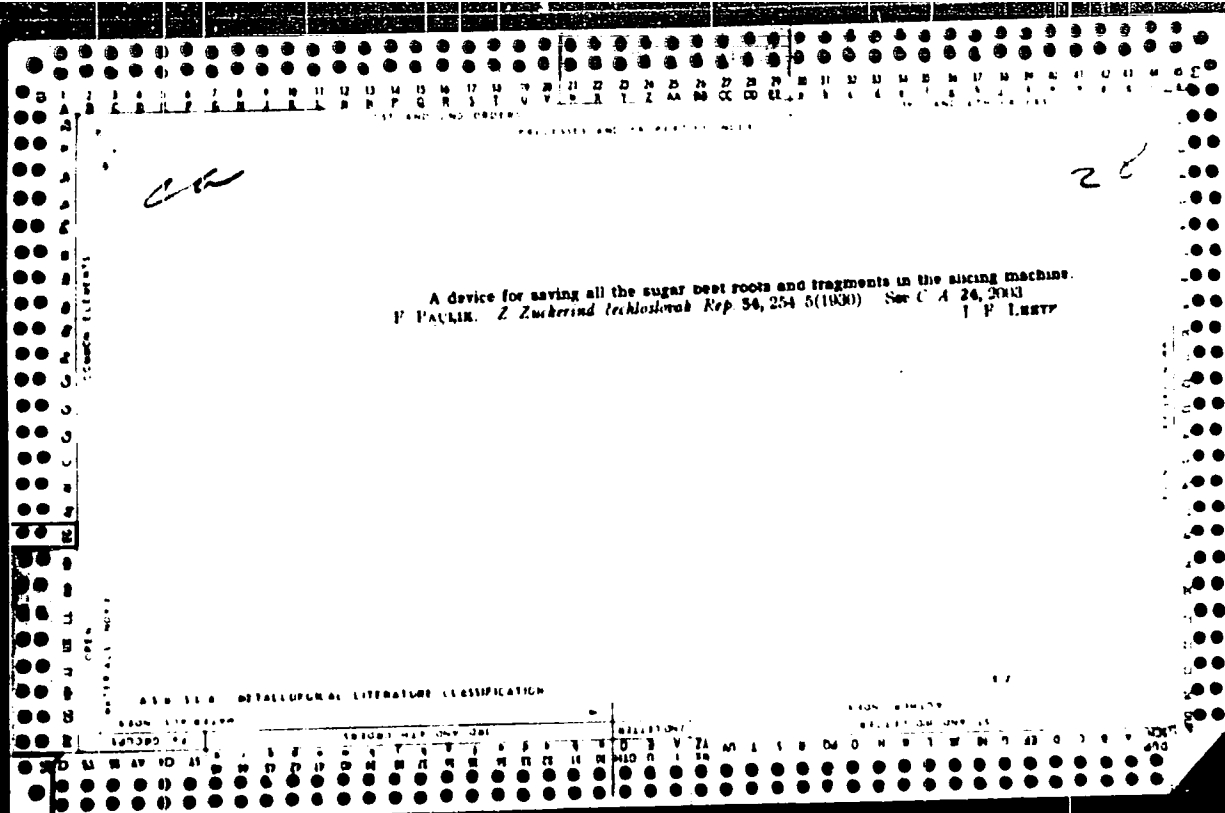
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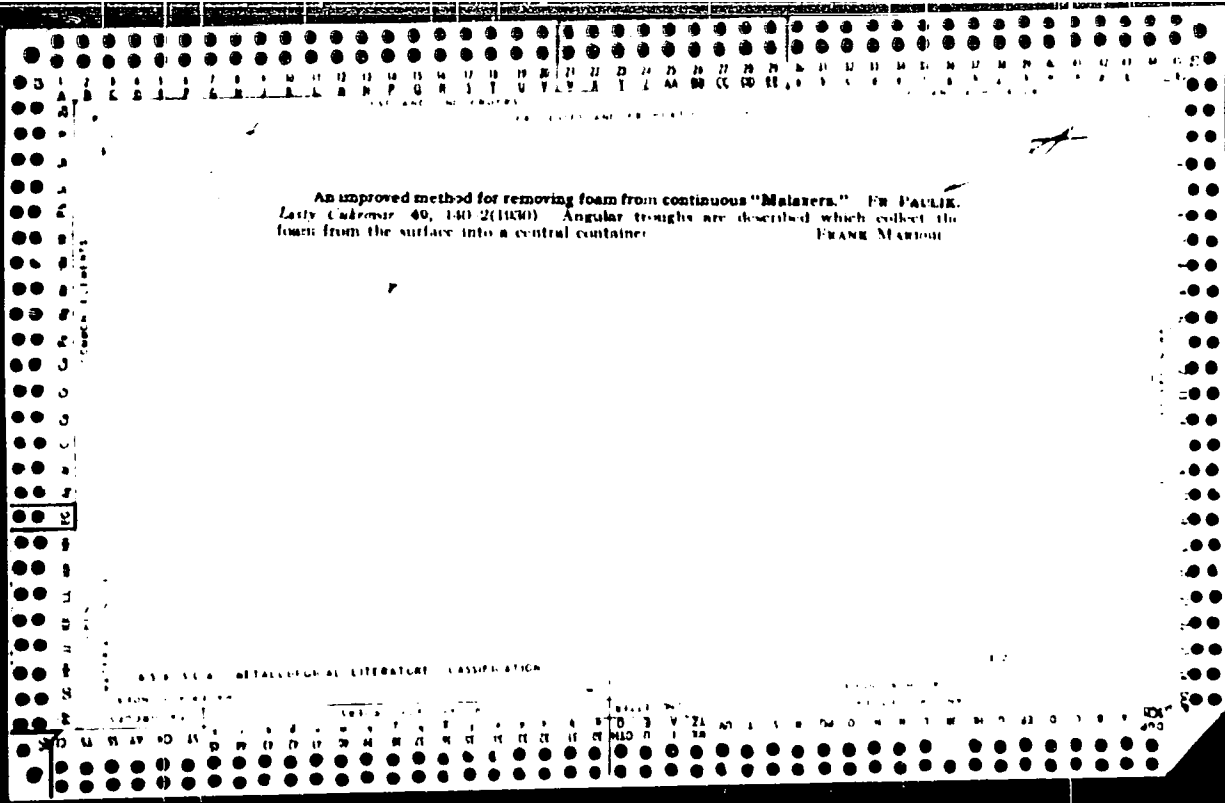
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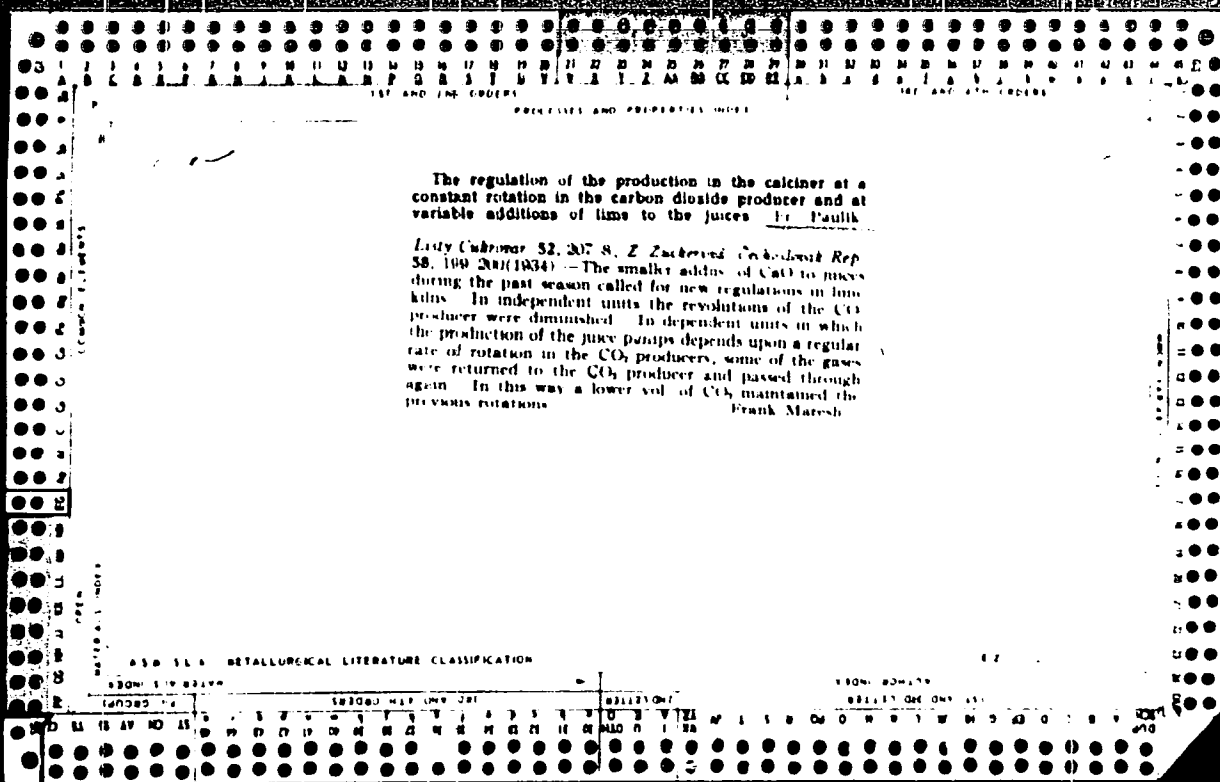
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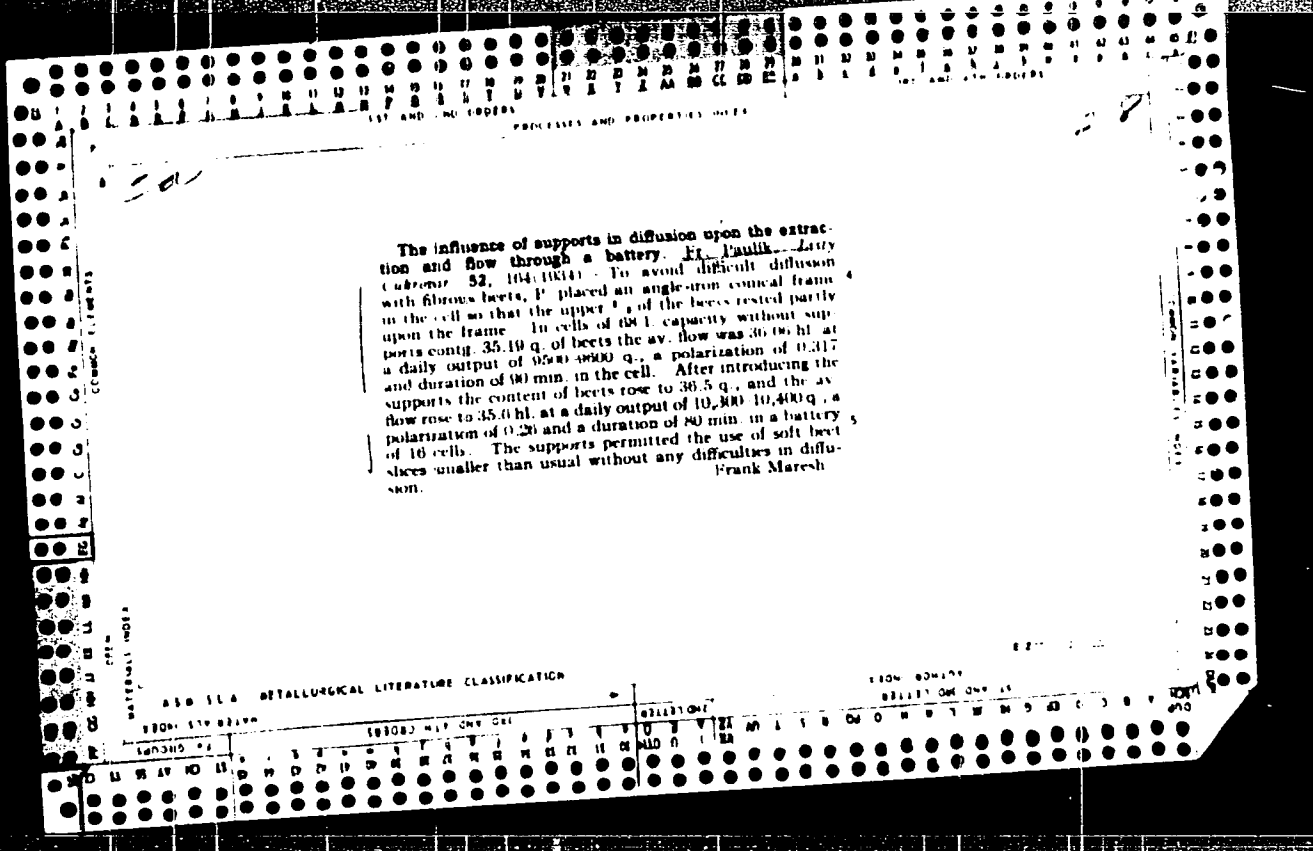














PAULIE, J. Ivan; SOMOLI, A. G.

Economy of the operation of glass melting furnaces. Epit. invuz. St. 3. 1970, No. 105.

1. Tokod Glass Factory, T. K. U.

PAULIK, Istvan; TISZAVARY, Otto, dr.

Corrosion in the sugar industry. Cukor 12 no.7:182-184  
Jl '59.

PAULIK, Istvan

Alumimum alloys as structural materials in the sugar industry.  
Cukor 13 no.4:113-117 Ap '60.

1952, 1.; TISSY, G.

Corrosion in the sugar industry. p.182

CHRETIEN. (Mezőgazdasági és Élelmiszeripari Tudományos Egyesület. Cukoripari Szakosztály) Budapest, Hungary  
Vol. 11, no.7, July 1952

Monthly List of East European Accessions (MEAI) 1952, Vol. 6, no.11, Dec. 1952  
Uncl.

Paulik, L.

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Distr: 4420/443d

The effect of temperature on the solution of zinc in dilute acid solutions. L. Kiss, L. Balog, L. Kiss, and L. Paulik (Univ. Szeged, Hung.). *Acta Univ. Szegediensis, Acta Phys. et Chem. (N.S.)*, 4, 107-15 (1958) (in German).—The effect of temp. on the soln. of Zn in 0.001, 0.005, and 0.01N solns. of HCl, H<sub>2</sub>SO<sub>4</sub>, and citric acid was studied. The measurements were made at 5, 15, and 25°. An explicit temp. effect can be established for all 3 acids. The soln. curves are drawn on the basis of polarographic analysis of samples taken at definite moments. At all concns. with an increase in temp. the amt. of dissolved metal, as well as the velocity const. of the reaction, increases. From the numerical values of the temp. coeffs. as well as from their variations, certain deductions can be made. The value of the temp. coeff. is greatest for H<sub>2</sub>SO<sub>4</sub> and least for citric acid. For a temp. change of 10° the increase in the temp. coeffs. is slight with all 3 acids. The increase amounts to 1, 0.55, and 1.70%, resp., for HCl, H<sub>2</sub>SO<sub>4</sub>, and citric acid.

George Melner

PAULIK, I

12. Derivative thermogravimetry, a new thermogravimetric procedure. (In German) I. Paulik, P. Paulik. *Acta Chimica Academiae Scientiarum Hungaricae*, Vol. 16, 1956, No. 1-3, pp. 61-97, 24 figs.

A new procedure was developed by the authors for the thermogravimetric investigation of analytical precipitates and other substances. A permanent magnet serving as the core of a fixed coil was suspended from the beam of a thermobalance. The potential of the current induced was then found proportional to the weight changes occurring in a pyrolysis process. The readings taken on a galvanometer in this circuit will yield a derivative of the thermogravimetry (pyrolysis) curve. An aperiodic automatic balance was furnished with this device and the thermal analysis of several important industrial and agricultural products, raw materials and analytical precipitates was carried out. These derivative curves were qualitatively characteristic of the decomposition processes occurring in each substance. The computation of the systematic error of the method and its experimental determination are discussed. Several examples are given to prove the practical usefulness of the method.

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PAULIK, F.

Determination of sulphur in sulphates by pyrogenic decomposition.  
L. Erdely and F. Paulik (*Acta chem. hung.*, 1954, 2, 37-53).  $\text{SO}_2$   
present in sulphates which generally dissociate only at high temp.  
is liberated by heating with  $\text{BaCl}_2$ ,  $\text{P}_2\text{O}_5$ , or  $\text{NaPO}_3$  and carried in an  
air current into water containing  $\text{NaClO}_2$  and finally determined  
volumetrically or gravimetrically as  $\text{BaSO}_4$ . The method is par-  
ticularly suitable for such materials as barytes, high furnace slag,  
coal ash, roasts, pyrites, superphosphate etc. H. Ward.

PAULIK, F.

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HUNG

22. Data on the problem of the composition of precipitated barium sulphate (In German) -- L. Erdely and F. Paulik. (Acta Chimica Academiae Scientiarum Hungaricae -- Vol. 4, 1951, No. 1, pp. 97-110, 2 figs, 3 tabs.)

CH  
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The authors prepared various types of barium sulphate under different conditions, setting out from precisely known quantities of sulphuric acid and barium chloride. The obtained precipitates were weighed both after drying and after glowing in the Grotz-Krocker apparatus. Glowing loss and volatile contents were also established and complemented by the direct determination of the water content. It was found that the composition of the precipitate depends to a great extent upon the conditions of precipitation, upon the quantity and nature of anions and cations present in the solution during the procedure. Hydrogen ion concentration seems to play a dominant role in affecting the composition and shape of precipitated barium sulphate crystals. High H-ion concentration acts unfavorably on the precipitation of BaSO<sub>4</sub>. The composition of the precipitate approximates theoretical values in the range of pH 0 to 1, whereas the greatest difference was observed at about pH 2.

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In a neutral medium the precipitate showed a strikingly high water content.

P-12

PAULIK E

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✓ 19. Thermal analysis of precipitates. I. Metal oxalate precipitates. II. Amorphous hydroxide precipitates. (In German) E. K. Felay, E. Paulik, *Acta Chimica Academiae Scientiarum Hungaricae*, Vol. 7, 1955, No. 1-2, pp. 27-38, 38 figs.

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chem

The simultaneous application of differential thermal analysis and thermogravimetry for the investigation of the thermal properties of barium, strontium, calcium, magnesium, zinc and manganese oxalate precipitates resulted in many advantages. By the first method it is possible to record extremely small changes in weight whereas thermogravimetry yields reliable data for quantitative deductions. The thermogravimetric measurements were carried out on a thermobalance made in the Institute. It was found that the carbon dioxide formed during the thermal treatment of the metal oxalate precipitates plays an important role since it may decrease the reaction rate and increase the decomposition temperature. By employing a similar method it was established that the structure and composition of aluminum hydroxide precipitates was largely influenced by the quality of the precipitating agent and by the concentration of foreign ions in the solution. The slower the rate of precipitation and the weaker and hotter the solution conditions were favourable for crystal formation) the closer the structure of the precipitate approaches that of the gibbsite molecule. Under contrary conditions an amorphous gel-type precipitate was obtained.

PM

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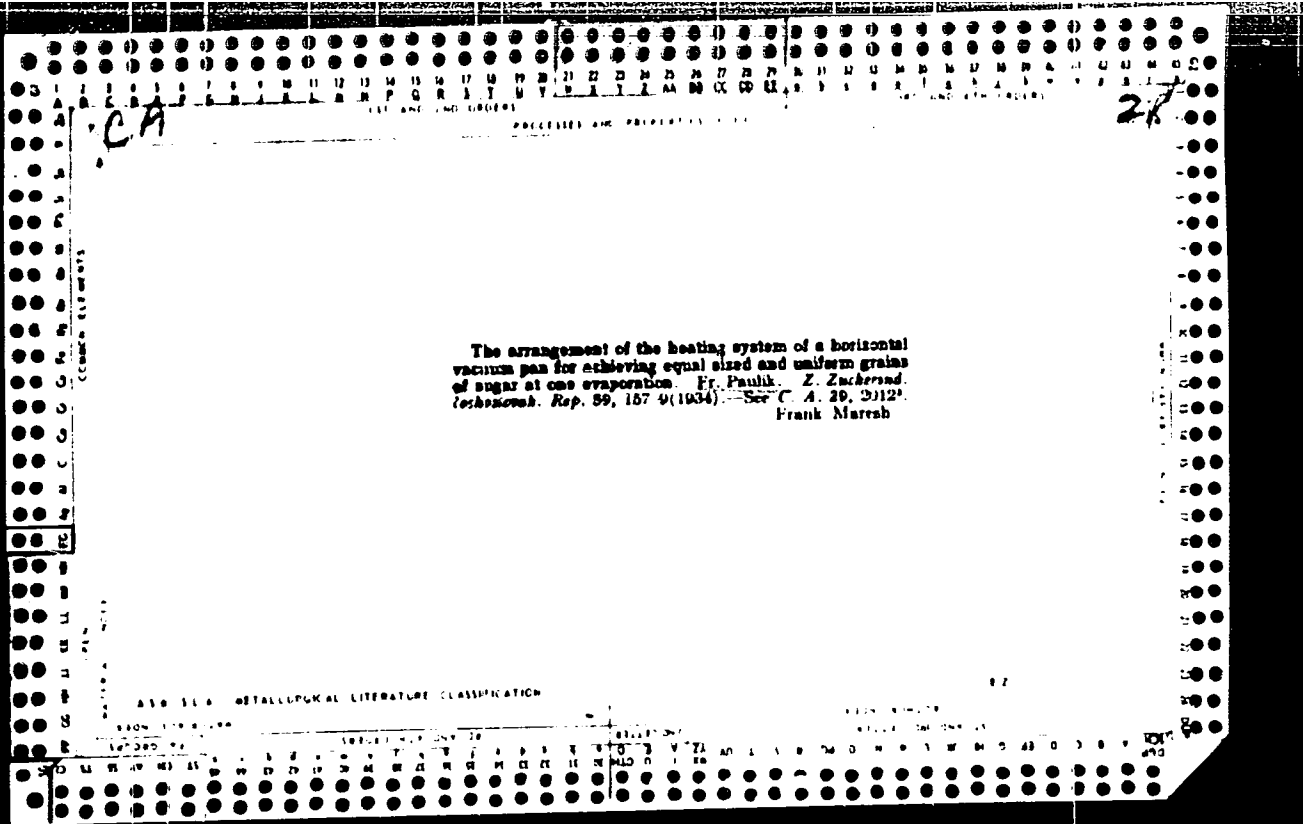
Improvement in the working of the filter presses. Fr. Paulik. *Lesky Časopis* 51, 517-8; Z. Zuckerm. *Czechoslovak Rep.* 57, 450-1 (1933).—Gas contg 37.2% CO<sub>2</sub> administered quickly to liquors produced large clumps of sediment and left a clear and bright fluid in the interspaces. During a slow satn. the clumps were small and diffuse while the liquid in the interspaces was foggy. the rate of filtration was retarded, and the extrn. of the sediment was far from complete. If the liquor is kept in const. movement after satn. by inflowing air, settling of the sediment is prevented and it is distributed evenly to the filter presses. Frank Alcock

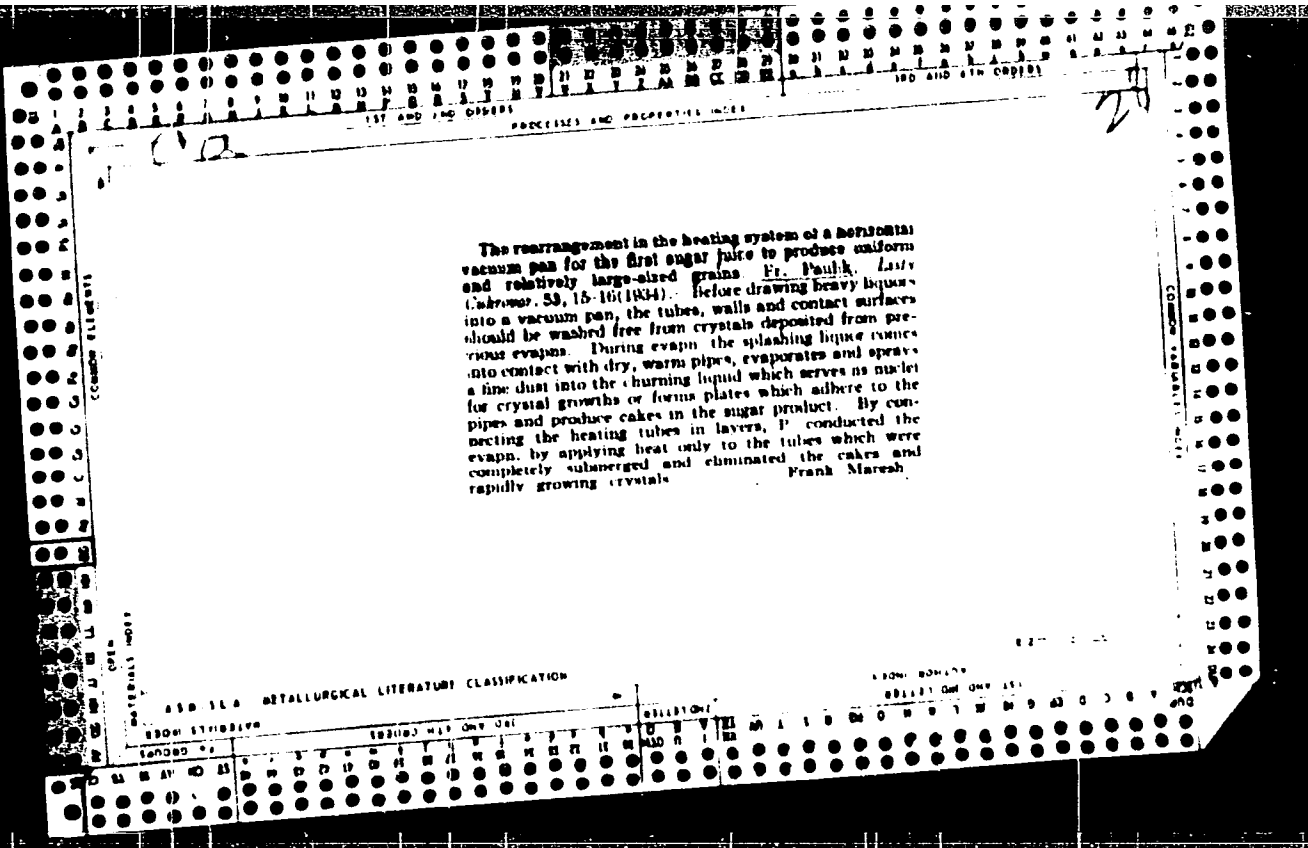
ASB SLA METALLURGICAL LITERATURE CLASSIFICATION

LIST AND JMC ORDERS PROCESSES AND PROPERTIES INDEX

Altering the sediment centrifuges to operate while the drum is being filled with or emptied of sugar. Fr. Paulik *Easte, Cakrouse 52, 258 (4) (1934)*. To remove the fat-  
genous manipulations connected with the use of wedge-  
shaped covers used during the removal of sugar from  
Western centrifuges, P. introduced an angular, slanting  
trough into the barrel of the centrifuge which is operated  
entirely from the exterior. Frank Marech

ASB 514 METALLURGICAL LITERATURE CLASSIFICATION





ERDEY, L., prof., dr. (Budapest, XI., Gellert ter 4); PAULIK,  
F. (Budapest, XI., Gellert ter 4); PAULIK, J.  
(Budapest, XI., Gellert ter 4)

Normalizing the conditions in thermoanalytical experiments  
by means of a derivatograph. Periodica polytechn chem 7  
no. 3: 171-175 '63

1. Lehrstuhl für Allgemeine Chemie, Technische Universität,  
Budapest.
2. Mitglied, Redaktionskollegium, "Periodica Polytechnica-  
Chemical Engineering." (for Erdey).

ERDEY, L., prof., dr. (Budapest, XI., Gellert ter 4); LIPTAY,  
G. (Budapest, XI., Gellert ter 4); PAULIK, F. (Budapest,  
XI., Gellert ter 4);

Determination of clacite, magnesite and dolomite in  
presence of each other by means of a derivatograph.  
Periodica polytechn chem 7 no. 3: 177-184 '63

1. Lehrstuhl für Allgemeine Chemie, Technische Universität,  
Budapest.
2. Mitglied, Redaktionskollegium, "Periodica Polytechnica-  
Chemical Engineering". (for Erdey).



ERDEY, L., prof. (Budapest, XI., Gellert ter 4); GAL, S.  
(Budapest, XI., Gellert ter 4); PAULIK P. (Budapest,  
XI., Gellert ter 4); BAUER, J. (Budapest, XI., Gellert  
ter 4);

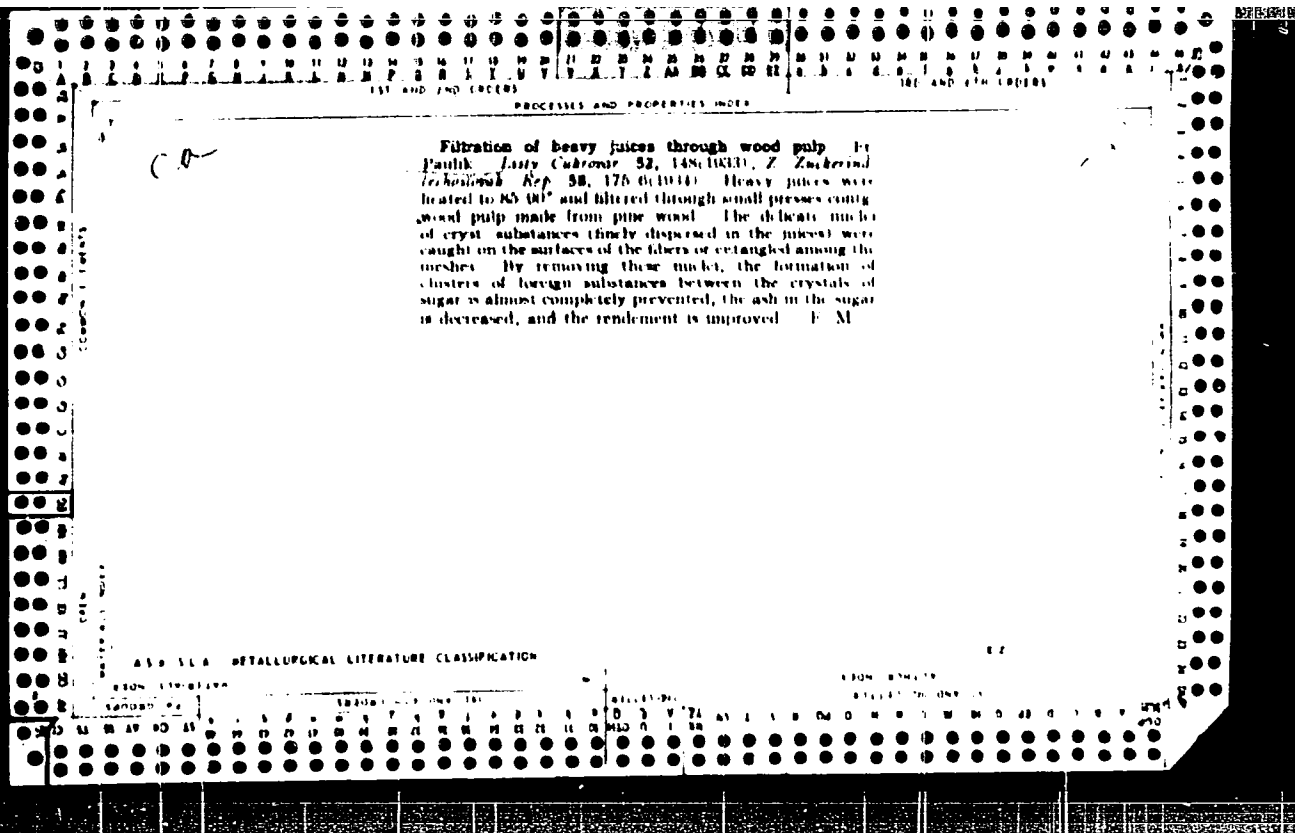
Derivatographic analysis of calcium oxalate hydrates.  
Periodica polytechn chem 7 no. 3: 215-22 '63

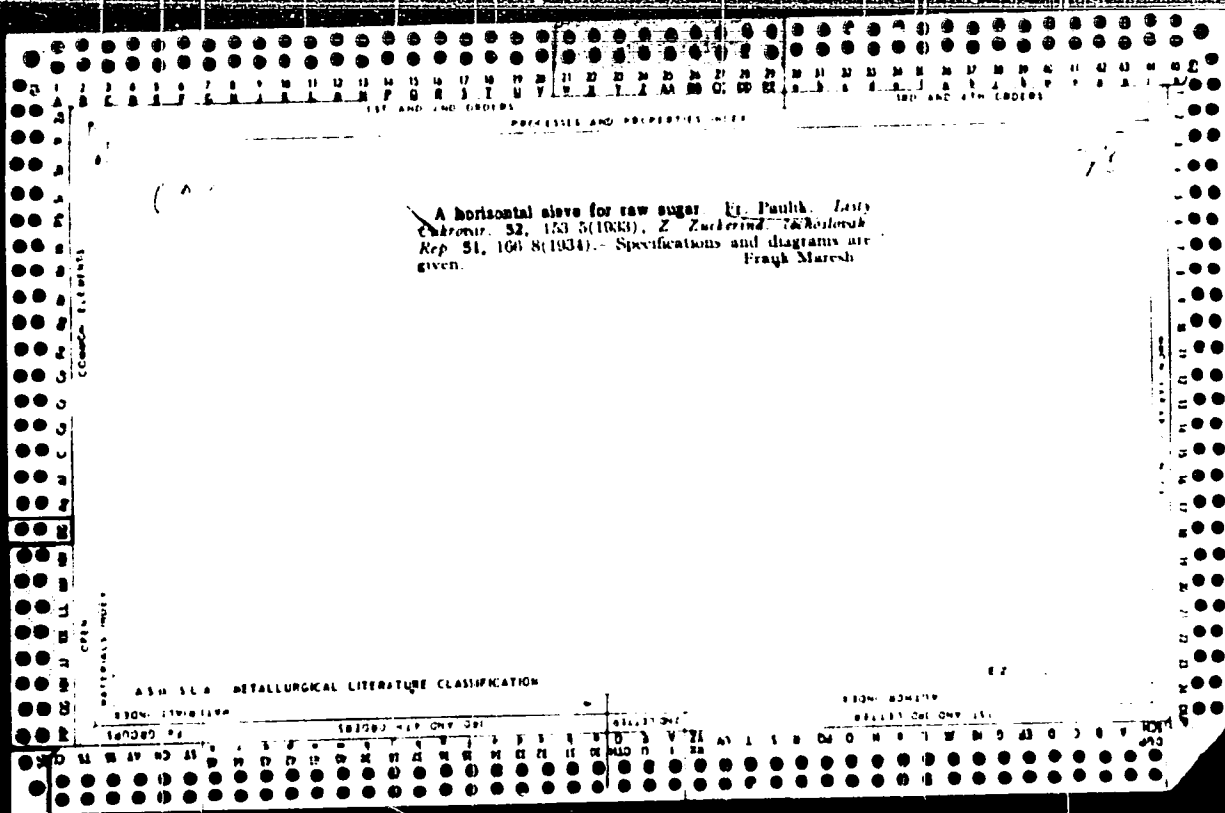
1. Lehrstuhl für Allgemeine Chemie, Technische Universität,  
Budapest (for Erdey, Gal and Paulik).
2. Chemische Fabrik Gedeon Richter, Kobanya (for Bayer).
2. Mitglied, Redaktionskollegium, "Periodica Polytechnica-  
Chemical Engineering" (for Erdey).

PAULIK, F.; PAULIK, J.; ERDEY, L.

Differential thermogravimetry; also, remarks by F. Korosy and others.  
p. 55. KOZLEMENYEI. Budapest. Vol. 7, no. 1, 1955.

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





PROCESSED AND REPRODUCED FROM THE ORIGINAL COPY

26

*ca*

The influence of rapidly saturated juice upon the speed of filtration and ease of extracting the sediment providing the liquor is being stirred violently and continuously

FR. PAULIK. *Žitný cukrovár* 51, 72-5. *Z. Zuckerind. Czechoslovak Rep.* 57, 60-72 (1952) Six kettles empty into a cylindrical satin vessel with a spherical bottom. The satin gas is directed against 3 adjustable turbines near the bottom so that the flow of the gas is scattered against the base and the liquor twirled violently. This achieves a most effective absorption of the CO<sub>2</sub>. Satin of 37 hl lasts 5-8 min with a 2% CaO desatd. to 0.00%. The stream of CO<sub>2</sub> is replaced by compressed air. The sediment presses operate at 2.75 atms. and washing is done with a small vol. of water 1.75 atms. the polarization of the sediment was 0.2-0.3%. FRANK MARSH

METALLURGICAL LITERATURE CLASSIFICATION

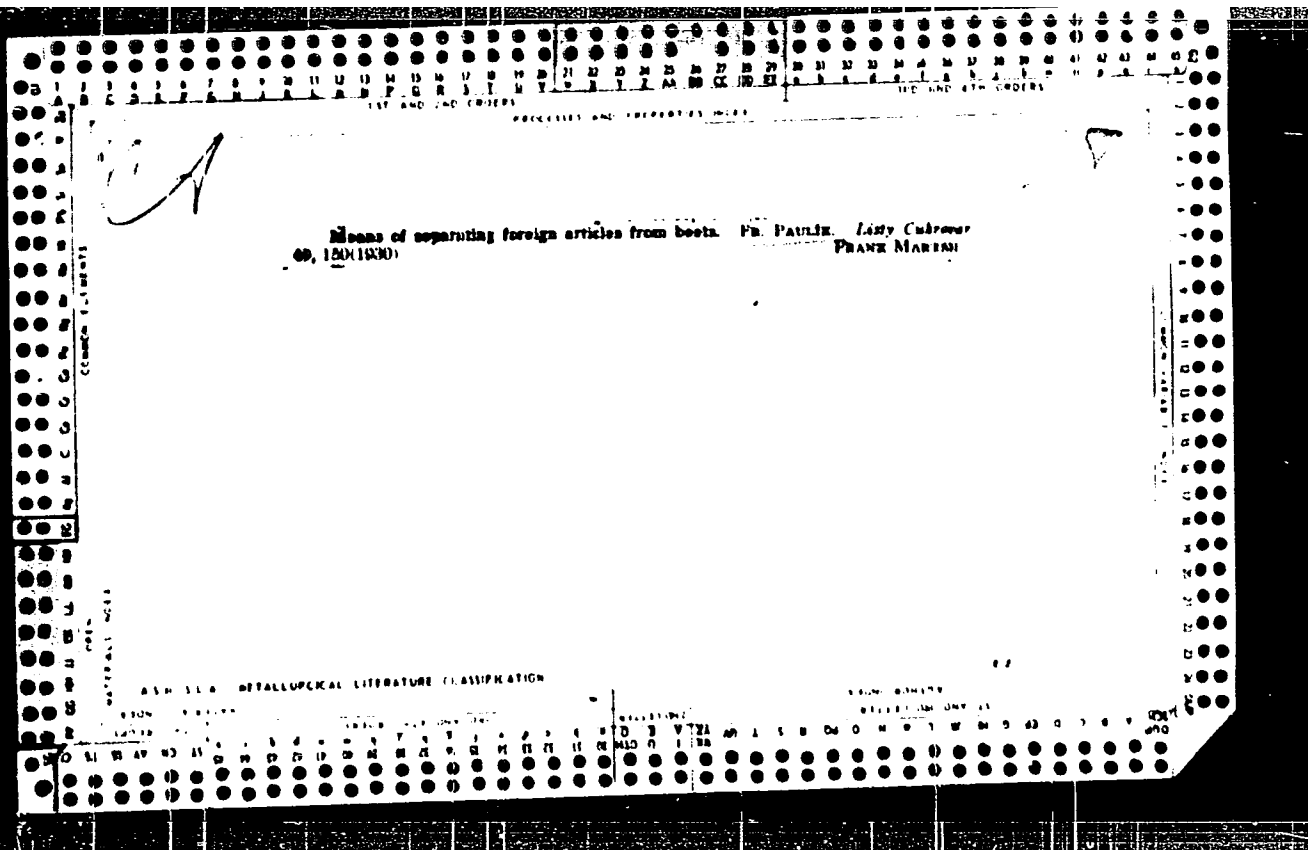
M I S O N H Y C D E F G H I J K L M N O P Q R S T U V W X Y Z

CA

The influence of rapidly saturated juice upon the speed of filtration and ease of extracting the sediment providing the liquor is being stirred vigorously and continuously. Fr. Paulik. Listy Cukrovar. 61, 72-6; Z. Zuckerind. Czechoslovak. Rep. 57, 69-72(1932). Six kettles empty into a cylindrical satn. vessel with a spherical bottom; the satn. gas is directed against 3 adjustable turbines near the bottom so that the flow of the gas is scattered against the base and the liquor twirled violently. This accomplishes a most effective absorption of the CO<sub>2</sub>. Satn. of 37 hl. lasts 5-8 min. with a 2% CaO desatd. to 0.06%. The stream of CO<sub>2</sub> is replaced by compressed air, and an even distribution of the sediment is maintained during the discharge of the vessel. The sediment presses operate at 2.75 atms. and washing is done with a small vol. of water at 1.75 atms; the polarization of the sediment was 0.260.3%.

Frank Mareš

DETAILS OF METALLURGICAL LITERATURE CLASSIFICATION



PAULIK, Ferenc

Derivatograph, the new Hungarian-made thermoanalytic instrument. Magy kem lap 18 no.12:2 of cover D '63.



PAULIK, Ferenc (Budapest, XI., Gellert ter 4); BUZAGH, Iva (Mrs);  
(Budapest, XI., Gellert ter 4); POLCS, László (Budapest, XI.,  
Gellert ter 4); ERDEY, László dr., prof. (Budapest, XI., Gellert  
ter 4).

Derivatographic analysis of barium sulfate precipitates.  
Pt.1. Acta chimica Hung 38 no.4:311-323 '63.

1. Institut für Allgemeine Chemie der Technischen Universität,  
Budapest.

PAULIK, Ferenc

High-temperature reactions in melts. Kem tud kozl MTA 22  
no. 3/4: 421-431 1964.

1. Chair of General Chemistry, Budapest Technical University.

KOROS, Endre, PAHLIK, Ferenc, ERDEY, Laszlo, RUFU, Ferenc

Thermal decomposition of some cobalt (II)-pyrazine mixed complexes. Magyar Kem. Folyoir 70 no.11:468-474 N 1974.

1. Chair of Inorganic and Analytic Chemistry, Lorand Eotvos University, Budapest, Chair of General Chemistry, Budapest Technical University, and Chair of Organic Chemistry, Lorand Eotvos University, Budapest. 2. Editorial board member, "Magyar Kemiai Folyoirat" (for Erdey).

ERDEY, L., prof., dr. (Budapest, XI., Gellert ter 4); PAULIK,  
F. (Budapest, XI., Gellert ter 4); PAULIK, J.  
(Budapest, XI., Gellert ter 4)

Normalizing the conditions in thermoanalytical experiments  
by means of a derivatograph. Periodica polytechnica chem 7  
no. 3: 171-175 '63

1. Lehrstuhl für Allgemeine Chemie, Technische Universität,  
Budapest.
2. Mitglied, Redaktionskollegium, "Periodica Polytechnica-  
Chemical Engineering." (for Erdey).

BOBAK, L., okleveles gepeszmernok; PAULIK, J., okleveles gepeszmernok, a  
muszaki tudomanyok kandidatusa

Czechoslovak-manufactured, multirope hoisting machines for shallow  
mines of minor capacity. Bany lap 96 no.2:89-95 F '63.

1. Csehszlovak Tudomanyos Akademia Banyaszati Intezete, Kosice.

BOBAK, I., BURNI, A., JALILIK, J.

Automation of vertical mine transportation with power supply  
to the driving motor by grid controlled mercury rectifiers.  
Vysl bar vyzk 3:13-27, 1964.

1. Institute of Mining, Czech Academy of Sciences, Kosice.

LEONTIEV, F.S. [Leont'yev, F.S.]; PAULIK, J.

Determination of basic electromechanical parameters of mine trolley locomotives. Vysl ban vyzk 3:29-38 '64.

1. Elektrosila Plant, Leningrad (for Leontiev).
2. Institute of Mining, Slovak Academy of Sciences, Kosice (for Paulik).

PAULIK, J.; LEŠKO, A.; ČERNÍK, F.

Rupture of nonparasitic splenic cysts as a cause of acute abdomen. Bratisl Lek. Listy 44 no. 7:442-444 '64.

I. I. chirurgická klinika Lekárskej fakulty Univerzity Komenského v Bratislave (vedúci prof. MUDr. K. Čarský).



PARKS

5

A new thermal method, derivative thermogravimetry, L. Erdey, F. Paulik, and J. Paulik (Tech. Univ., Budapest), *Acta Chim. Acad. Sci. Hung.* 10, 61-67 (1959) (in German) (English summary); cf. *C.A.* 50, 3953a. A thermogravimetric app. is described and illustrated in which the sample under study is heated in an elec. oven; the temp. of the latter is increased at a const. rate. The sample is contained in a Pt crucible at the end of a rod, the lower end of which is attached to one side of an aperiodic balance. On the other side is suspended a magnet that is surrounded by a solenoid connected to a galvanometer. The deflection of the galvanometer is plotted with respect to time; it is proportional to the rate of change in wt. of the sample. Graphs are derived for  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ ,  $\text{Al}_2(\text{SO}_4)_3 \cdot 18\text{H}_2\text{O}$  (I), Kalum (II), hydrazilite, artificial fibrite (III),  $\text{Al}_2\text{O}_3 \cdot x\text{H}_2\text{O}$  (IV),  $\text{Al}(\text{OH})_3$  gel (V),  $\text{MgCO}_3$  (in  $\text{CO}_2$  atm.), Zn anthracillate (VI) (in  $\text{CO}_2$  atm.), coal (in air and in N), beechwood (in N), and cellulose (in N) in the temp. range 0-1800°. I loses 8 mols.  $\text{H}_2\text{O}$  at room temp., 12 mols. at 140°, and the remaining 3 mols. at 180°.  $\text{SO}_4$  is lost at 590°. In II, 4 mols.  $\text{H}_2\text{O}$  are attached to K, 8 to Al, and one each to the  $\text{SO}_4$  ions. III, IV, and V are extensively discussed. VI loses half its org. content at 340°, probably forming  $\alpha\text{-C}_6\text{H}_5\text{COZnNH}$ .

J. W. Loweberg, Jr.

DM MT

3 5

Pau. K. J.

12. A new method for the derivation of polarograms.  
I. Paál, I. Prázel. *Magyar Kémiai Folyóirat*,  
Vol. 63, 1966, No. 1, pp. 220-221, 7 figs.

A new method has been developed for the recording of derived curves in polarography. The current to be differentiated is conducted into the primary coil of a suitable transformer. The current induced in the secondary coil supplies the derivative of the polarographic current directly, which can be recorded in the usual way by a galvanometer. The curve obtained in this manner accurately follows each minute change of the undifferentiated polarogram, the abscissa values of its maximum and of the inflection point of the primary curve coincide perfectly. In case of ideal stages the differentiated curve is completely symmetrical and a shift of the point of maximum, often experienced when differentiating with the condenser method, cannot be observed.

PM 0016

G/002/62/000/009/001/001  
D287/D307

AUTHOR: Paulik, Ferenc, Paulik, Jenö and Erdey, Laszlo

TITLE: Derivatography

PERIODICAL: Chemische technik, no. 9, 1962, 533-537

TEXT: The derivatograph, constructed by the authors, is an automatic recording device for the thermal analysis of solid or liquid samples. Weight changes due to heat and the rate at which these changes proceed and the variations in the enthalpy and the temperature of one sample are recorded simultaneously. The relationship between the chemical composition and the crystalline structure of substances can be determined with a higher degree of accuracy than with hitherto used methods; thermal reactions within the sample can also be elucidated by this method. Derivatograms give results obtained during tests on bauxite samples and during the microdistillation of water. The authors refer briefly to previous investigations on minerals, ores, solid fuels and building materials, on the heat-sensitivity of catalysts and thermal proper-  
Card 1/2

VANCSONE SZMERCSÁNYI, Ibolya; PAULIK, Jeno

Thermal analysis of polyester resins. Pt.1. Magyar kem  
folyoir 69 no.12:545-550 D'63.

1. Muanyagipari Kutato Intezet, Budapest.

PAULIK, Jeno

Thermography. Kem tud kozl MTA 22 no.3/4:433-448 '64.

1. Chair of Inorganic Chemistry, Budapest Technical University.

PAULIK, J.; LESKO, A.; DEBNIK, P.

Glucose utilization following intraarterial insulin administration.  
Bratisl. lek. listy 45 no.11: 25-27, 15 Dec 1955

I. I chirurgicka klinika Lekárske fakulty Univerzity Komenského v Bratislave (veduci: prof. MUDr. E. Lanský).

PAULIK, Jiri

Operation management and the locomotive depots. Zes. dop tech.  
12 no.9:242-243 '64.

1. Operation Engineer, Locomotive Depot Liberec.

PAULIK, Juraj, inz. CSc.; DRIPNAK, Andrej, RNDr.; MERVA, Milan, inz.

Theoretical and experimental analysis of the methods of automatic direction and position keeping of coal cutter-loaders. *Automatizace* 7 no.8:201-203 Apr '64.

1. Institute of Mining, Czech Academy of Sciences, Brno.



PAULIK, Juraj, engineer, candidate of technical sciences

Automation of coal cutter-loaders. Izvestia Bany KI no.3/4:  
107-112 '59/60.

1. Lab.banictva Slovenskej akademie vied, Kosice, Czechoslovakia.

1000001 : Moscow, U.S.S.R. : 1980

1000002 : Moscow, U.S.S.R. : 1980

AUTORS : Medina, L. and Kalash, M.

TITLES : Study of

TITLES : Temperature Dependence of the Elasticity

1000003 : Chem. Zhurn., 7, No. 11, 1977

ABSTRACT : A study of the temperature dependence of the elastic modulus of polyisobutylene is reported. The modulus was measured in the temperature range from -196 to +100°C. The results show that the modulus of polyisobutylene increases with increasing temperature. The increase in the modulus is attributed to the increase in the intermolecular forces between the polymer chains. The authors also discuss the effect of the presence of crosslinks on the modulus of polyisobutylene.

D. G. Kay

PAULIK, Yury: Master Tech Sci (diss) -- "Magnetic amplifiers in the power supply of the G-P mine-hoist system". Leningrad, 1956. 77 pp (Min Higher Educ USSR, Leningrad (Order of Lenin and Order of Labor Red Banner Inst for G. V. Plekhanov, Chair of Mine Electrical Engineering), 100 copies (KL, No. 5, 1956, 191)

PAULIK, YURAY, inzh.

Investigating transient phenomena and stability in automatized hoisting units with G-D system drives. Nauch. dokl. vys. shkoly; gor. dele no.1:127-134 '59. (MIRA 12:5)

1. Predstavlena kafedroy gornoy elektrotekhniki Leningradskogo gornogo instituta im. G.V. Plekhanova.

(Hoisting machinery--Electric driving)  
(Automatic control)

PAULIK, Yuray, inzh.

~~Magnetic amplifiers in the G-D transmission system for mine hoists.~~  
Nauch. dokl. vys. shkoly; gor. delo no.3:190-197 '58. (MIRA 11:9)

1. Predstavlena kafedroy gornoy elektrotekhniki Leningradskogo  
gornogo instituta im. G.V. Plekhanova.  
(Mine hoisting--Electric driving)  
(Magnetic amplifiers)

TOMKO, Jozef, dr. inz., C.Sc.; VOTICKY, Zdeno, dr. inz., C.Sc.; PAULIK,  
Vladimir, inz.; VASSOVA, Anna, PhDr.; BAUEROVA, Oldriska, PhDr.

Alkaloids from *Saxus sempervirens* L. Pt.1. Chem zvesti 13  
no.10:721-731 '64.

1. Division of Alkaloids of the Institute of Chemistry of the  
Slovak Academy of Sciences, Bratislava, Dubravska cesta.

PAULIN, Alojz, Ing. (Ljubljana)

Pulse generator for magnetron supply. Elektr vest 27 no.9/10:  
a-33--a-34, 297-300 S-0 '59. (EEAI 9:10)

1. Institut "Jozef Stefan", Ljubljana.  
(Pulse generators) (Magnetrons)

PAULIN, A.

"Microtron."

p. 341 (Electrotehnicki Vestnik. Electrotechnical Review) Vol. 25,  
no. 9/10 Sept./ Oct. 1957. Ljubljana, Yugoslavia

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4  
April 1958



S/194/62/000/005/042/157  
D256/D308AUTHORS: Paulin, A., and Požar, F.

TITLE: Construction of an X-band microtron

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika,  
no. 5, 1962, abstract 5-3-7a (Elektrotehn. vestn.,  
1960, 28, no. 8-10, 17a-19a)

TEXT: A detailed description of the construction of the 3 MeV microtron electron accelerator built in the "Jozef Stefan" institute in Lyublyana (Yugoslavia). The arrangement consists of: The UHF system and its power supply, the magnet and its supply, and the vacuum system. A number of technical problems concerning the design and the alignment are considered. Although high-power travelling wave klystrons are most advantageous in operation, they are approx. 10 to 30 times as expensive as the magnetrons of the same power. A 3 cm 4J50-type X-band magnetron of 240 kW peak output was used. A Q factor exceeding 3000 is required for obtaining an accelerating voltage ranging from 200 to 300 kV in the gap of the resonator. For such a Q factor, a rigorous stabilization of the frequency of the magnetron is required. [Abstractor's note: Complete translation]

Card 1/3

Construction of an X-band microtron

S/194/62/000/005/042/157  
D256/D308

sealings were made of teflon and rubber. The microtron chamber had a detachable top pole of the magnet. 2 diffusion pumps are employed giving a vacuum down to  $(2+3) \times 10^{-5}$  mm Hg. The magnetic field amounted to 1700 Oe in case of 50 mm gap. The current in the magnet winding was 1A at 600 V. 10 references. [Abstractor's note: Complete translation]

✓

OGURTSOVA, G.A.; PAUL'SON, A.A.

Experience in starting water lines in Yakutsk during the winter.  
Trudy Sev.-Vost.otd.Inst.merzl.AN SSSR no.1:46-51 '58. (MIRA 16:12)

PAULUS, Emanuel, ins.

A special case of gas turbine rotor failure. Energetika Cs 12  
no.6:309-312 Je '62.

PAULUS, Josef

Two-dimension modeling technique in projects and designs.  
Podn org 18' no. 6:258-262 Je '64.

1. State Institute of Designing General Engineering Factories  
Projekta, Prague.

PAULUS, Josef

Model technique in the design of machine factories. Pod org 17  
no.8:351-357 Ag '63.

1. Statni ustav pro projektovani zavodu vseobecneho strojirenstvi  
Projekta, Praha.

L-51089-65

ACCESSION NR: AP5015479

CZ/0031/64/012/012/0886/0891

5  
B

AUTHOR: Paulus, Josef

TITLE: Unified system of project documentation of machines and equipment

SOURCE: Strojirenska vyroba, v. 12, no. 12, 1964, 886-891

TOPIC TAGS: industrial management, mechanical engineering

Abstract: author's Czech summary modified The author proposes a unified system for designation of the parameters of machinery and equipment in order to provide designer and planners with better basic data than are available in a large variety of catalogs, mats of instructions, etc. Orig. art. has 11 figures.

ASSOCIATION: SU Projekta, Prague

SUBMITTED: 00

ENCL: 00

SUP CODE: IE, GO

NO REF SOVI: 000

OTHER: 000

JPRS

*me*  
Card 1/1

PAULUS, Josef

Operation records and the filing of machinery and equipment design data. Podn org 18 no.11:509-513 N '64.

1. Projekta, State Institute for Designing General Engineering Enterprises, Prague.

PAULIS, Otakar, CSc.

Finished prefabricated elements for construction of houses  
and public buildings in Czechoslovakia. Poz stavby 13 nos. 1:  
63-69 '65.

1. Research Institute of Building Construction, Prague,  
Worksite Gottwaldov.



PAULUSZ, Mihaly

Opinion on the VDE 0446/3.63 standard entitled "Regulations for ceramic insulators on heavy current transmission lines and railroad overhead wires." Elektrotechnika 57 no.7:321-323 J1 '64.

PAULUSZ, Mihaly, okl. villamosmernok.

Solutions for the modification of impulse voltage strength  
of supporting insulators. Elektrotechnika 52 no.3:104-113  
'59.

1. A VILLENKI tudományos munkatarsa.

PAVINSZ, M.

Recently developed pin insulators and bush insulators. p. 487.

ELEKTROTECHNIKA. (Magyar Elektrotechnikai Egyesulet) Budapest, Hungary,  
Vol. 51, No. 10/12, 1958.

Monthly list of East European Accessions (EEAA) LC, Vol. 8, No. 7, July 1959.  
Uncla.

PAULUSZ, M.

"Solutions which can be used for the modification of impulse-voltage strength of supporting insulators." p. 104.

ELEKTROTECHNIKA. (Magyar Elektrotechnikai Egyesület). Budapest, Hungary, Vol. 52, No. 3, 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8, August 1959.  
Uncla.

PAULUSZ, Mihaly, tudományos munkatárs

New type indoor supporting insulators. Elektrotechnika 53  
no.2/3:114-119 '60.

PAULUSZ, Mihaly

Development of high-tension porcelain insulators in the German Democratic Republic. Elektrotechnika 55 no.5:221-228 My '62.

PAULY, Josef

Development of the economical use of wood between the 11th  
and 12th Congresses of the Communist Party of Czechoslovakia.  
Les cas 10 no. 1:91-110 Ja '64.

1. Statni drevarska inspece, Praha.

PAULYK, US

PHASE I BOOK EXPLOITATION

SOV/4658

Akademiya stroitel'stva i arkhitektury SSSR. Institut stroitel'nykh konstruksiy  
Issledovaniya po seysmostoykosti zdaniy i sooruzheniy; sbornik statey (Research  
on Earthquake-Resistant Buildings and Constructions; Collection of Articles)  
Moscow, Gosstroyizdat, 1960. 246 p. 5,000 copies printed.

Sponsoring Agency: Akademiya stroitel'stva i arkhitektury SSSR. Tsentral'nyy  
nauchno-issledovatel'skiy institut stroitel'nykh konstruksiy (TsNIISK).

Eds.: I.I. Gol'denblat, Doctor of Technical Sciences, Professor; I.L. Korchinskiy,  
Doctor of Technical Sciences, Professor; and V.A. Bykhovskiy, Candidate of Tech-  
nical Sciences; Scientific Ed.: L.Ye. Temkin, Engineer; Ed. of Publishing House:  
I.S. Borodina; Tech. Ed.: L.M. Osenko.

PURPOSE: This collection of articles is intended for design and construction engi-  
neers, scientific workers, and aspirants.

COVERAGE: The book contains articles on experimental and theoretical investigations  
of the earthquake stability of buildings and structures carried out at the Central  
Scientific Research Institute of Structural Parts of the Academy of Building and  
Card 1/7



Research on Earthquake-Resistant Buildings (Cont.)

SOV/4658

Architecture USSR. The foreign and Soviet norms in force for calculating seismic effects in the design and construction of buildings and structural parts are compared, and also problems in the seismic zoning of the USSR are examined. One article describes an investigation of the strength of steel subjected to several recurrent loadings and of the dynamic behavior of building models. Problems in the determination of the free oscillations of buildings and in the distribution of horizontal seismic loads between the cross walls of buildings are also discussed. The projected "Instructions for Determining the Computed Seismic Loads for Buildings and Structures" based on the current "Norms and Rules for Construction in Seismic Regions" (SN 8-57) are given. No personalities are mentioned. References accompany individual articles.

TABLE OF CONTENTS:

Preface

3

Korchinskiy, I.L. [Professor, Doctor of Technical Sciences]. Comparison of Design Norms in Force in the USSR and in Other Countries for Calculating Seismic Effects

5

Card 2/7

SOV/137-57-11-21893

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 11, p 173 (USSR)

AUTHORS: Paulyuchenka, M. M., Targonskaya, T. I.

TITLE: Surface Saturation of Steel and Cast Iron With Sulfur and Nitrogen  
(Poverkhnostnoye nasyshcheniye stali chuguna seroy i azotom) in  
Belorussian

PERIODICAL: Izv. AN BSSR. Ser. fiz. -tekhn. n., 1956, Nr 4, pp 91-98

ABSTRACT: A description of equipment, techniques, and results of an investigation dealing with surface saturation of cast-iron specimens and specimens of steels 45, 45Kh, 40Kh, 20, 15KP with S or with S and N. The effect of temperature, duration of the process, and rate of H<sub>2</sub>S supply on the content of S in the surface layer was investigated, together with wear-resistant properties of the specimens. It was established that in the process of gas saturation of gray cast iron at a temperature of 260-440°C for a period of 3 hours, the S penetrates into the metal to a depth of more than 0.2 mm. The quantity of S at a depth of 0.15-0.2 mm increased by 61% at 260° and by 162% at 440°. When 0.1-mm plates of 15KP steel were saturated with S at 280° for a period of two

Card 1/2

SOV/137 57 11 218<sup>93</sup>

Surface Saturation of Steel and Cast Iron With Sulfur and Nitrogen

hours, the S content increased from 0.03% to 0.24% and, at 475<sup>0</sup>m reached a value of 2.08%, i. e. , an increase of 69 times. After three hours of sulfidizing at a temperature of 250-400<sup>0</sup>, specimens of steels 20 and 45Kh were subjected to three hours of nitriding at 600<sup>0</sup>, the NH<sub>3</sub> being supplied at a rate of 8.46 cc min. During nitriding of specimens which have been previously subjected to sulfidizing the degree of dissociation of the NH<sub>3</sub> is reduced by 75-85 percent and the amount of nitrogen absorbed is reduced to 1/2-1/3 of the quantity used up during nitriding of standard specimens. Abrasion tests have demonstrated that sulfidizing increases the wear resistance of steel and cast iron from 2 to 5 times; however, no difference in wear resistance was observed when untreated and sulfidized specimens were subjected to heavy loads during protracted testing. Nitriding of sulfidized specimens increased their wear resistance by as much as 20-25 times; however, no seizing occurred throughout the entire testing period

M Sh

Card 2/2

EXCERPTA MEDICA Sec 6/Vol 13/6 Internal Medicine June 59

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3229. ALLERGIC POLYARTHRITIS OF THE RHEUMATIC TYPE WITH A PROLONGED COURSE AND RECURRENT OUTBURSTS (SO-CALLED PURELY ALLERGIC RHEUMATISM OF THE KAHLMETER TYPE) - Poliartrita alergică de tip reumatismal, cu evoluție prelungită și puseuri recidivante (așa-numitul reumatism alergic pur tip Kahlmeter) - Păumescu-Pedeanu A. MED. INTERNA (București) 1958, 10/2 (277-283)

On the basis of data from the literature and personal experience (6 cases), allergic arthropathies with various clinical pictures but developing on an allergic soil and linked up with different allergens are classed among rheumatismal diseases. Allergic rheumatism has the form of an acute or chronic polyarthropathy with acute outbreaks; neuralgias and allergic myalgias are also known. Allergic rheumatism should be differentiated from other forms of rheumatism, because it behaves in a different manner from the therapeutic point of view, responding only to anti-allergic medication.

Nicolaesco - Bucharest (VI, 19)