"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

L 28969-66

ACC NR: AP6019135

From the data it follows that the minimum content of impurities is found in $MgCl_2$ B and D; hence, in supplying electrolyzers with $MgCl_2$ B and D, the current yield is the highest and the amount of slime formed is lowest.

It should be noted that the main amount of impurities entering the electrolyzers with $MgCl_2$ B and D is contained in the magnesium which comes from the reduction apparatus.

The greatest amount of impurities is contained in carnallite and $MgCl_2$ ShEP which results in the lowering the technological factors of electrolysis and increased slime formation.

The conducted studies indicated that all impurities with the exception of SO_4^{-2} are accumulated in the slime and the magnesium raw material during electrolysis (N.A. Frantas'yev, Tr. VAMI (Works of the All-Union Aluminum and Magnesium Institute), 1963 No 50; Tsvetnnye Metally (Nonferrous Metals), 1964, No 5); impurity accumulation in the electrolyte does no occur.

The main change in impurity content in the electrolyte occurs in the first 15-30 minutes after pouring the raw material.

Accumulation of impurities in the slime occurs with the simultaneous increase in the content of magnesium in them. The content of Mg in the slime during the supply of $MgCl_2$ B and D to the electrolyzers amounted to 5-7% (magnesium in the sample is 2-3% and screened magnesium is 3-4%). The main amount of magnesium settles in the slime after filling the bath with raw material. As further studies indicated, the magnesium losses in the slime can be reduced only with the significant reduction of the amount of all impurities entering the electrolyzer. I.S. Kirilenko, T. K. Dolgikh and M. V. Lamzova participated in the work. Orig. art. has: 2 tables. [VPRS]

SUB CODE: 13, 07 / SUBM DATE: none / ORIG REF: 001

Card 3/3

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

L 28970-66 EWT(m)/EWP(e)/T/EWP(t)/ETI IJP(c) DS/JD/WW/WH

ACC NR: AP6019136 SOURCE CODE: UR/0136/65/000/003/0060/0065

AUTHOR: Muzhzhavlev, K. D.; Lebedev, O. A.; Frantas'yev, N. A.; Olyunin, G. V.; Dolgikh, T. K.; Sheka, T. S.

ORG: none

TITLE: Improvement in the technology of magnesium chloride electrolysis

SOURCE: Tsvetnyye metally, no. 3, 1965, 60-65

TOPIC TAGS: electrolyte, electrolysis, titanium, magnesium, chloride, furnace, magnesium compound, chlorination

ABSTRACT: On the basis of the pilot plant investigations conducted by the authors in 1959-1960, a sodium-potassium electrolyte composed of (%):8-18 $MgCl_2$, 60-30 NaCl, 20-50 KCl, 0-10 $CaCl_2$ or $BaCl_2$, was recommended for the electrolysis of $MgCl_2$ obtained from the production of titanium.

In 1961-1963, at one magnesium plant, extensive research of the sodium - potassium electrolyte was conducted at a group of experimental industrial electrolyzers operated for 1-1.5 years after replacement of the lining before the beginning of the tests. For comparison, the sodium-calcium and potassium electrolytes were tested simultaneously under comparable conditions.

The electrolyzers were fed molten $MgCl_2$ from titanium production containing (%): 95-99 $MgCl_2$, 0.4 MgO, 0.004 SiO_2, 0.007 Fe, $\angle$ 0.02 C, 0.01 SO_4^{-2}, 0.01 F^-, 0.04 H_2O, and 0-2 Mg metal.

The slime from the electrolyzers was removed manually once in 7 days; the distance between electrodes was kept at 8-10 cm; fluorides were not introduced into the electrolyzers. The anode current density for all electrolyzers was identical - 0.43 a/cm^2. In contrast to the earlier issued recommendations, the electrolyte temperature was kept at 700-720°C.

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To control the true value of the current yield the electrolyzers were periodically (6-10 days) changed to a feed of $MgCl_2$ obtained in electrical shaft furnaces.

Identically high and stable average current yield, approximating 90%, was obtained in the sodium-potassium and potassium electrolyzers. The current yield for the sodium-calcium electrolyte was 4-6% lower.

The amount of slime in the potassium and sodium-potassium electrolytes was identical (0.06 kg/mg Mg); in the sodium-calcium electrolyte, 70% more slime was obtained.

Because of these factors the actual electrical conductivity of the sodium-potassium electrolyte is approximately 20% higher than the electrical conductivity of the sodium-calcium electrolyte with the same amount of NaCl in the electrolyte.

The amount of magnesium raw material in the main impurities, the losses of metallic magnesium with the slime, the yield and concentration of chlorine, and the stability of the lining in the experimental industrial electrolyzers were identical for all three electrolyte compositions.

Relationship of current yield to the interelectrode distance showed in pilot-plant electrolyzers of the All-Union Aluminum and Magnesium Institute (VAMI), that the change in distance between electrodes within the limits of 3-16 cm does not at all affect current yield.

In 1963, this relationship was studied on an experimental industrial electrolyzer. When the composition of the electrolyte was (in %): 8-12 $MgCl_2$, 22-24 NaCl, 63-56 KCl and 3.0 $CaCl_2$, the current yield and the electric

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power consumption remained almost unchanged upon decreasing the interelectrode distance from 8-9 to 4-5 cm, but the current at the electrolyzer cell in the second case was increased by 20% because of the additional current feed from the auxiliary generator and disconnection of one cell. The losses of chlorine with the gases of the cathode suction and its concentration in the anode gas remained unchanged. The amount of slime also remained unchanged.

Relationship of current yield and slime content to the $MgCl_2$ concentration in the electrolyte was conducted on the pilot plant electrolyzer of VAMI at 2000 amps.

Granulated $MgCl_2$ from titanium production containing (in %): 0.5-1.5 H_2O, 0.4-0.7 MgO was the raw material. $MgCl_2$ was loaded into the electrolyzer continuously with the aid of a trough feeder. The variation in concentration in a single period did not exceed 1%, and the electrolyte level was kept strictly constant.

If one takes, as 100%, the amount of slime when the concentration of $MgCl_2$ is 6%, then when the content of $MgCl_2$ in the electrolyte is 9, 13 and 16%, this value is 118, 154, and 195% respectively. Increased $MgCl_2$ concentrations in the electrolyte from 6-9 to 13% led to the increase of current yield from 86 to 90%.

It is evident that to obtain a high and stable current yield the $MgCl_2$ concentration in the electrolyte of industrial electrolyzers should not be below 8-10% (the upper limit -- not over 18-20%)

It is interesting to note that the $MgCl_2$ content change in the range of 6-16% in the electrolyte did not at all affect the value of the average

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voltage of the electrolyzer.

The cause of this, evidently, is the fact that the reverse emf measured by the instantaneous cut-out of a cell was 2.92 V at 6% $MgCl_2$ and 2.28 V at 16% $MgCl_2$.

Relationship of the current yield and slime content to the duration of intervals between recoveries of slime at the VAMI pilot plant electrolyzer showed that the duration of interval between extraction of the slime was increased to 142 days; thereupon the amount of slime amounted to 0.01 kg/kg Mg in all.

In 1961, in an experimental industrial electrolyzer, the time of the intervals between slime removal was set at 40-50 days; the current yield was 85-87%. In 1963 this task was studied more in detail at two experimental industrial electrolyzers.

From the data obtained it follows that when feeding $MgCl_2$ from titanium production to electrolyzers the slime content depends not so much on the amount of raw material, composition of the electrolyte and design of the electrolyzer as on the conditions for slime recovery.

Testing of an electrolyzer with a graphite hearth with $MgCl_2$ feed from the titanium production was conducted on pilot plant scale for 4 months.

The total current at the electrolyzer was 2000 amps; the current shunted to the hearth -- 100-200 amps (D = 0.03-0.06 amps/cm^2).

With a disconnected hearth, the current yield and slime formation were the same as in the pilot plant electrolyzer with an ordinary hearth.

During anode polarization of the graphite hearth, the slime completely

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disappeared in 2-3 days; during operation with a connected hearth no slime was formed.

However, both in the first and also in the second case the current yield was reduced from 88-91 tp 80-85%, i.e., by 5-8%. This can be explained by the chlorination of impurities and their harmful effect on the process. Research in this area will be continued. Of much interest in remo ing the harmful effect of impurities is the use of chlorine-discharging anodes with which all or part of the chlorine is carried off through the body of the anode. Such experiments are being conducted at the present time.

With the further mastery of the sodium-potassium electrolyte, increase of NaCl in it, and the introduction into industry of the operating regimes at small distances (4-5 mm) between electrodes, these indicators in the opinion of the authors, can amount to 88-90% and 50.4-52.2 megajoules/kg of Mg (14.0-14.5 kilowatt-hours/kg of Mg) respectively, when the current is 20-30% higher than at the present.

The tests on experimental industrial electrolyzers, as well as the physical and chemical properties of the sodium-potassium electrolyte which are favorable to the electrolytic process and the high quality of $MgCl_2$ from the production of titanium, can serve to conform this.

The selection of the actual ratio of NaCl:KCl in the electrolyte depends on the technical scheme of the plant and level of mechanization of slime recovery processes. As the calculation of economic effectiveness indicates, the use of the sodium-potassium electrolyte in place of the sodium-calcium one permits a reduction of approximately 5% in the cost of magnesium.

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Additionally, the use of this electrolyte permits the mechanization of the slime recovery with the aid of a vacuum. With sodium-calcium or sodium-barium electrolytes this means of slime recovery is hardly applicable because of the large losses of $CaCl_2$ or $BaCl_2$. The sodium-potassium electrolyte should be recommended for use, in turn, for high quality $MgCl_2$. However, in the future this electrolyte composition may be quite practical for all forms of $MgCl_2$.

Orig. art. has: 5 tables. [JPRS]

SUB CODE: 13, 07 / SUBM DATE: none / ORIG REF: 006

Card 6/6 BLG

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

MUZHZHAVLEV, K.D.; LEBEDEV, O.A.; FRANTAS'YEV, N.A.; OLYUNIN, G.V.; SHEKA, T.S.; DOLGIKH, T.K.; Prinimali uchastiye: POPOV, V.V.; SHEKA, V.P.

Results of testing individual design elements of magnesium electrolytic cells. TSvet. met. 38 no.5:57-60 My '65.
(MIRA 18:6)

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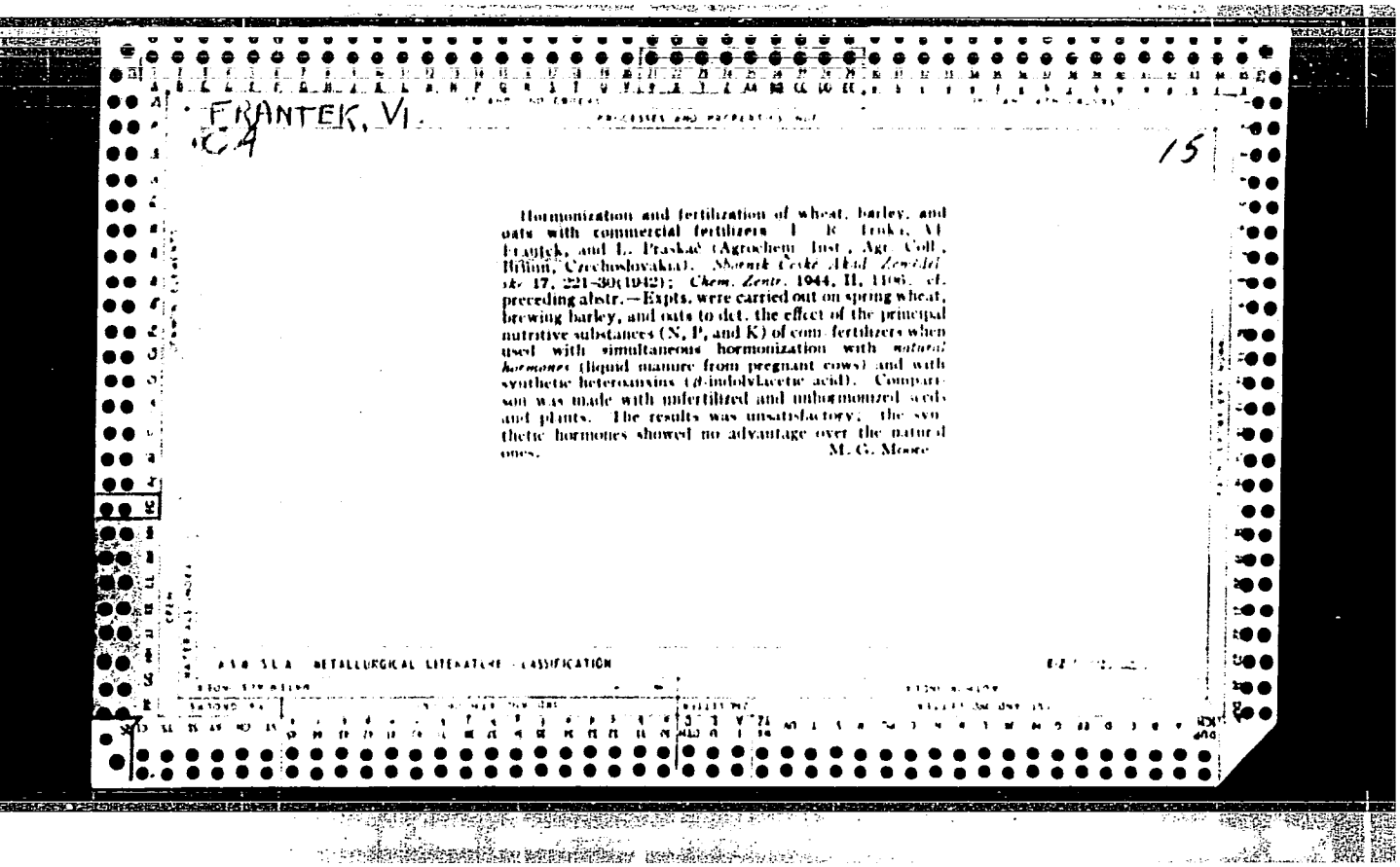

FRANTEK, VI.

CA

15

Hormonization and fertilization of wheat, barley, and oats with commercial fertilizers. I. K. Frank, Vl. Frantek, and L. Praskač (Agrochem. Inst., Agr. Coll., Brünn, Czechoslovakia). *Sborník Ceske Akad. Zemědělské* 17, 221–30(1942); *Chem. Zentr.* 1944, II, 1106. cf. preceding abstr.—Expts. were carried out on spring wheat, brewing barley, and oats to det. the effect of the principal nutritive substances (N, P, and K) of com. fertilizers when used with simultaneous hormonization with *natural hormones* (liquid manure from pregnant cows) and with synthetic heteroauxins (β-indolylacetic acid). Comparison was made with unfertilized and unhormonized seeds and plants. The results was unsatisfactory; the synthetic hormones showed no advantage over the natural ones.

M. G. Moore

A & S.E.A. METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTEK, VLADIMIR

Analyticka chemie kvantitativni vazkova a odmerna. [Vyd. 1.] Praha, Statni pedagogicke nakl., 1953. 161 p. (Ucebni texty vysokych skol) [Gravimetric and volumetric quantitative analytic chemistry]

East European Vol. 3, No. 3 4
SO: Monthly List of ~~Russian~~ Accessions, Library of Congress, March 1953, Uncl.

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

CZECHOSLOVAKIA/Human and Animal Physiology. - Nervous System. T-10
Higher Nervous Activity. Behavior.

Abs Jour : Ref Zhur - Biol., No 7, 1958, 32230

Author : Frantik, E.
Inst : -
Title : Development of Valuable Motor Conditioned Reflexes and Their Use for the Study of the Action of Trichlorethylene on the Higher Nervous Activity of Rats.

Orig Pub : Pracovni lekar., 1957, 9, No 4, 314-317.

Abstract : No abstract.

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

HORVATH, M.; FRANTIK, E.

Effect of l-glutamine on the central nervous system. I. Effect on the higher nervous activity. Cesk. fysiol. 7 no.5:474-475 Sept 58.

1. Ustav hygieny prace a chorob z povolani, oddeleni fysiologie vyssi nervove cinnosti, Praha.

(CENTRAL NERVOUS SYSTEM, physiol.
higher nerv. activity, eff. of glutamine (Cz))
(GLUTAMINE, effects,
on higher nerv. activity (Cz))

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

HORVATH, M.; FRANTIK, E.

Physiological basis of hygienic standards. I. General principles.
Cesk. hyg. 6 no.9:519-530 O '61.

1. Ustav higieny prace a chorob z povolani, Praha.
(INDUSTRIAL MEDICINE)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTIK, E.; HORVATH, M.

Studies on higher nervous activity in applied research with special reference to hygiene. Activ. nerv. sup. 4 no.2:180-181 '62.

1. Ustav hygieny prace a chorob z povolani, Praha.

(CENTRAL NERVOUS SYSTEM physiol) (HYGIENE) (RESEARCH)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

HORVATH,M.; FRANTIK,E.

Use of automatic technics in the study of higher nervous functions. Activ. nerv. sup. 6 no.1:115-116 '64

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTIK, E.; KHORVAT, M. [Horvat, M.]

Elements of automation in the technique of research in higher nervous activity. Zhur. vys. nerv. deiat. 14 no. 2:358-363 Mr-Ap '64. (MIRA 17:6)

1. Department of Physiology of Higher Nervous Activity, Institute of Labor and Occupational Diseases, Prague, Czechoslovakia.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

HORVATH, M. (Praha 10, Srobarova 50); FRANTIK, E.; MICHALOVA, C.

The study of higher nervous functions in occupational medicine. Cas. lek. cesk. 104 no.17:457-466 30 Ap'65.

1. Ustav hygieny prace a chorob z povolani v Praze (reditel: prof. dr. V. Teisinger).

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTÍK, M., MU Dr.

Czechoslovakia

Hospital of Children's Tuberculosis -- Lučivná (Liečebňa detskej tbc -- Lučivná); Director: R. ŠIMEK, MU Dr; Second Internal Medicine Ward (II. interné oddelenie); Chief: M. FRANTÍK, MU Dr.

Prague, Rozhledy v tuberkulóse, No 10, 1962, pp 720-722

"Atelektasias and Postatelectatic Scleroses of the Pectoral Segment in Primary Lung Tuberculosis."

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTIK M. CZECHOSLOVAKIA

No degree indicated

Sanatorium of Child Tuberculosis (Liecebna detskej tbc), Lucivna; Director: Dr. R. SIMEK;

Prague, Rozhledy v tuberkulose a v nemocech plicnich, No 9, Oct 62, pp 668-674

"Early Results of Long Term Institutional Treatment of Pulmonary Tuberculosis in Children."

Co-author:

POHANKA, P., no degree indicated; Sanatorium for Tuberculosis in Children (Detska liecebna tbc), Dolny Smokovec; Director: Dr. J. SPURA

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTIK, M.

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MD; Chairman, Second Intern Section (II. int. odd.)

Children's Tuberculosis Institute (Liecebna detskej tbc), Lucivna; Director: R. SIMEK, MD

Prague, Rozhledy v tuberkulose a v nemocech plicnich, No 8, Sep 62, pp 586-590.

"Early Results of Prolonged Institutional Treatment of Pulmonary Tuberculosis in Children. I. Source of Infection, Social Conditions and Calmettization".

Co-author:

POHANKA, P., Children's Tuberculosis Institute (Detska liecebna tbc), Dolny Smokovec; Director: J. SPURA, MD; Chairman of First Intern Section (I. int. odd.): R.NEUMANN, Doc. Dr.

(4)

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FRANTIK, M.

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MD; Chairman, Second Intern Section (II. int. odd.)

Children's Tuberculosis Institute (Liecebna detskej tbc), Lucivna; Director: R. SIMEK, MD

Prague, Rozhledy v tuberkulose a v nemocech plicnich, No 8, Sep 62, pp 586-590.

"Early Results of Prolonged Institutional Treatment of Pulmonary Tuberculosis in Children. I. Source of Infection, Social Conditions and Calmettization".

Co-author:

POHANKA, P., Children's Tuberculosis Institute (Detska liecebna tbc), Dolny Smokovec; Director: J. SPURA, MD; Chairman of First Intern Section (I. int. odd.): R.NEUMANN, Doc. Dr.

(U)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTIK, M.; GEYNY, Y. [Heyny, J.]

Inactivation of isonicotinic acid hydrazide in children. Probl. tuberk. 41 n. 2:58-64 '63 (MIRA 17:2)

1. Iz Instituta terapii tuberkuleza Luchivna (dir. P.Shimel [Simek, R.]) i Instituta terapii tuberkuleza Vysshyye Gagi (dir. J.Balaz), Chekhoslovakiya.

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FISCHER, R.;FORMINEK, J.;FRANTIKOVA, D.;HORVATH, M.

Changes of critical blinking frequency during the course of a workday in telephone operators. Cesk. fysiol. 9 no.1:12-13 Ja 60.

1. Vyzkumny ustav spoju. Ustav hygieny prace a chorob z povolani, Praha.

(FATIGUE)

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

HORVATH, M.; FISCHER, R.; FORMANEK, J.; FRANTIKOVA, D.; MIKISKA, A.

The strain on higher nervous activity in mechanized and automatized work and the possibility of its examination. Pracovni lek. 13 no.4: 163-168 My '61.

1. Ustav hygieny prace a chorob z povolani, Praha; Vyzkumny ustav spoju, Praha.

(INDUSTRIAL MEDICINE)
(CENTRAL NERVOUS SYSTEM physiol)

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FORMANEK, J.; FISCHER, R.; FRANTIKOVA, D.

The frequency of neurotic signs in female telephone and key punch operators. Activ. nerv. sup. 3 no.4:412-424 '61.

1. Vyzkumny ustav spoju, Praha (red. ing. F. Bozek) Ustav hygieny prace a chorob z povolani, Praha (red. prof. J. Teisinger)

(OCCUPATIONS AND PROFESSIONS) (NEUROSES statist)

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FORMANEK, J.; FISCHER, R.; FRANTIKOVA, D.

The critical flicker fusion frequency and the frequency of neurotic manifestations in various occupations. Activ. nerv. sup. 4 no.2: 183-184 '62.

1. Vyzkumny ustav spoju, Praha, Ustav hygieny prace a chorob z povolani, Praha.

(FLICER FUSION) (NEUROSES statist)
(OCCUPATIONS AND PROFESSIONS)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTIKOVA, D.

Determination of the olfactory threshold to industrial poisons. Activ. nerv. sup. 4 no.2:184-185 '62.

1. Ustav hygieny prace a chorob z povolani, Praha.

(POISONS) (SMELL) (AIR POLLUTION)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

CZECHOSLOVAKIA

R. FISCHER, D. FRANTISKOVA and J. FORMANEK, Institute of Work Hygiene and Occupational Diseases (Ustav hygieny prace a chorob z povolani) Head (prednosta) Dr Prof J. TEISINGER, DrSc; and Communications Research Institute, (Vyzkumny ustav spoju), Chief (reditel) Ing F. BOLEK, Prague.

"Occupational Health Problems in Long-Distance Telephone Operators."

Prague, Pracovni Lekarstvi, Vol 14, No 10, Dec 1962; pp 471-476.

Abstract [English summary modified]: Comprehensive review of the world literature on the topic: proneness to neurotic lability, sensory (esp. auditory) impairment, autonomic-endocrine disturbances. Authors found negative results in limited studies on blood pressure and skin temperature measurements. They find no justification for considering neuroses as occupational and compensable, but auditory changes are such, however, they are mostly minor in degree. The problems persist, however, and remedial measures are outlined. The present 6,000 Czechosl. operators will not decrease in number until 1965; from then on automation will affect them- to 1,100 in 1980. About 40 worldwide ref's.

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FISCHER, R.; FRANTIKOVA, D.; FORMANEK, J.

Health problems of long-distance telephone operators. Prac. lek. 14 no.10:471-476 D '62.

1. Ustav hygieny prace a chorob z povolani v Praze, reditel prof. dr. J. Teisinger, DrSc. Vyzkumny ustav spoju v Praze, reditel inz. F. Bozek.

(OCCUPATIONS AND PROFESSIONS)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

5(1)

SOV/64-59-3-7/24

AUTHORS: Zabotin, K. P., Morozov, L. A., Kryukov, I. V., Frantinskiy, A.A.

TITLE: Experiment With a Continuous Polymerization of Methylacrylate in Emulsion (Opyt nepreryvnoy polimerizatsii metilakrilata v emul'sii)

PERIODICAL: Khimicheskaya promyshlennost', 1959, Nr 3, pp 30 - 31 (USSR)

ABSTRACT: Despite of the advantages of a tube reactor for the continuous polymerization (PS) of methylacrylate (I) it was not used in this case, as (P) starts at 72° with the applied initiator (ammonium persulfate), and is followed by an intensive development of gas. A somewhat different system with a cylindric reactor was used which served the purpose of PVC polymerization (Ref 1) (Fig - scheme of the system). For the (P) technical (I) was used with about 93% (I), 0.2% of acid and 0.1-0.2% of hydroquinone. The latter was separated before the (P) by means of a 5% NaOH solution. "Necal" and sulphanole served as emulgators. The composition of the reaction compound is given. The polymerization degree of the received product amounted to about 500. Data concerning the viscosity, respectively the (MW) are also given . It is stated that speed and the (P) degree are lower in the continuous (P) than in the periodical

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Experiment With a Continuous Polymerization of Methylacrylate in Emulsion

SOV/64-59-3-7/24

(P). Data are given of a (P) of (I) according to the continuous method under the application of sulphanoles and various amounts of ammonium sulfate, as well as a (P) of (I) with 0.002% of hydroquinone. The latter showed that the MW of the polymer is increased by a reduction of the hydroquinone content. There are 1 figure and 1 reference.

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5(3)

06214
SOV/64-59-6-6/28

AUTHORS: Zabotin, K. P., Morozov, L. A., Kryukov, I. V., Frantinskiy, A. A., Golubev, A. A.

TITLE: Continuous Method of the Copolymerization of Butyl Acrylate With Acrylonitrile in Emulsions

PERIODICAL: Khimicheskaya promyshlennost', 1959, Nr 6, pp 486 - 487 (USSR)

ABSTRACT: The product obtained by the copolymerization mentioned in the title is used in the manufacture of artificial leather, in leather dyeing, etc. Publications mention a semi-continuous method (Ref 1) for this polymerization. Here, a continuous method is described, which has already been proposed for the copolymerization of divinyl with styrene (Ref 2). From the scheme given (Fig) it is seen that a tube reactor is used. The following composition in parts by weight is used as reaction mixture: butyl acrylate: 54, "sulfonol" (emulsifier): 2, ammonium persulfate (as initiator): 0.1, acrylonitrile: 16, water: 100. The reaction mixture was introduced into the reactor at a rate of 1.2 l/h and 1.8 l/h respectively, and the copolymerization was carried out at approximately 80°. In order to prevent

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Continuous Method of the Copolymerization of Butyl Acrylate With Acrylonitrile in Emulsions

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coagulation of the finished latex 4-7% of ethylene glycol was added. There are 1 figure and 2 references.

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTIS, J.

Training newdrivers in basic organizations.

p. 583 (Svet Motoru. Vol. 11, no. 19, Sept. 1957. Praha, Czechoslovakia)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, February 1958

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

VINCENT, Gustav, inz. dr.; FER, Frantisek, inz.

Hybrids of the European and Japanese larch on the experiment plot of the Litovel Forest Enterprise. Les cas 11 no.4:367-378 Ap '65.

1. Faculty of Forestry of the Higher School of Agriculture, Brno (for Vincent). 2. Scientific Institute of Forestry of the Higher School of Agriculture, Kostelec nad Cernymi Lesy (for Fer). Submitted March 26, 1964.

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTISEK, Lenokh [FRANTIŠEK, L.], prof.

Some problems in treating acute rheumatism. Vop.okh.mat. i det. 3 no.3:45-50 Jl-Ag '58 (MIRA 11:8)
(RHEUMATIC FEVER)

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FRANTISHEV, Ivan Moiseyevich; ROZANOV, M.D., red.; PRESNOVA, V.A., tekhn. red.

[Crane builders of Leningrad; the past and present of the Kirov hoisting and conveying equipment plant in Leningrad, 1853-1961] Leningradskie kranostroiteli; o proshlom i nastoiashchem leningradskogo zavoda pod"emno-transportnogo oborudovaniia imeni S.M.Kirova, 1853-1961. Leningrad, Lenizdat, 1962. 350 p. (MIRA 15:9)
(Leningrad—Labor and laboring classes)
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FRANTIU, I.

Specific platina consumption in our production of thin, steel plates. Metallurgy and Machine Construction, #3:9:Mar. 55

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FRANTIU, I.

Systematization of specific consumption of steel for profile and half-finished products rolling mills. p. 47. METALURGIA SI CONSTRUCTIA DE MASINI. (Ministerul Industriei Metalurgice si Constructiilor de Masini si Asociatia Stiinifica a Inginerilor si Tehniclelor) Bucuresti.
Vol. 7, no. 11, Nov. 1955.

SOURCE: East European Acessions List, (EEAL), Library of Congress, Vol. 5, No. 11, November, 1956.

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Increased service period of mill rolls. p. 7. TEHNICA NOUA. (Asociatia Stiintifica a Inginerilor si Tehnicienilor) Bucuresti. Vol. 2, no. 25, Nov. 1955.

So. East European Accessions List Vol. 5, No. 9 September, 1956

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FRANTIU, I.

Problems and achievements in the process of perfecting the production of steel rolling mills. p. 51.

METALURGIA SI CONSTRUCTIA DE MASINI

Vol. 8, no. 1, Jan. 1956

Rumania

Source: EAST EUROPEAN LISTS Vol. 5, no. 10 Oct. 1956

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FRANTIU, I.

Application of certain formulas for testing specific expenditures of steel in the production of rolling mills for profiled iron and semifinished products. p. 63.

METALURGIA SI CONSTRUCTIA DE MASINI

Vol. 8, no. 3, Mar. 1956

Rumania

Source: EAST EUROPEAN LISTS Vol. 5, no. 10 Oct. 1956

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FRANTIU, I

FRANTIU, I.

FRANTIU, I. Problems of some rolling mills in Czechoslovakia. p. 74.

Vol. 8, no. 10, Oct. 1956
METALURGIA SI CONSTRUCTIA DE MASINI.
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FRANTIU, I.

Assortments in the production of laminated sheet metal steel. p. 76.
(METALURGIA SI CONSTRUCTIA DE MASINI. Vol. 9, no. 6, June 1957, Rumania)

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

Criteria for the classification of hotleminated steel profiles. p. 385.
(STANDARIZAREA. Vol. 9, no. 8, Aug. 1957, Rumania)

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

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FRANCU, I.

Determination and practical calculation of the economy of steel in the production of laminates.

p. 43 (Metalurgia Si Constructia De Masini. Vol. 9, no. 9, Sept. 1957. Bucuresti, Rumania)

Monthly Index of East European Accessions (MEAI) LC. Vol. 7, no. 2, February 1958

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

Frantiu, I.

Classification of deficiencies of ingots, laminated products, and drawn-steel products. p. 136.

STANDARDIZAREA. Comisiunea de Standardizare. Bucuresti, Rumania
Vol. 11, no. 3, Mar. 1959

Monthly List of East European Accessions (EEAI) LC, vol, 8, no. 9, Sept. 1959

Uncl.

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

R/009/60/000/004/002/002
A124/A026

AUTHOR: Frantiu, Ioan, Engineer

TITLE: New Achievements in the Field of Steel Rolling Mills

PERIODICAL: Metalurgia şi Construcţia de Maşini, 1960, No. 4, pp. 327 - 330

TEXT: The author briefly reviews a few modern installations used in rolling mills, which helped to increase the production capacity. A 850/700/500 continuous rolling mill was put into operation in the USSR in 1958. In order to connect the continuous casting of steel with the rolling of finished products, a new principle based on the utilization of the universal planetary rolling mill (Tselikov - Nosal System) was recommended in the USSR. Large blooming-slabbing mills, with rolls ranging from 1,250 - 1,300 mm in diameter are being planned in the USSR. Special attention is paid to the reconstruction and replacing operations, as well as to new working methods. The 1,150 blooming mill of the "Dzerzhinskiy" Plant in the USSR employs simultaneous rolling of two ingots. The USSR emphasize the construction of continuous rolling mills for broad strips (1,700 - 2,100 mm) and of cold-rolling mills for narrow strips (1.8 - 4 mm). The plans of a continuous rolling mill for the rolling of thin-walled shapes were

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worked out recently. A semiproduct butt-welding installation allowed the construction of a Soviet wire rolling mill, having a rolling speed of 60 m/sec. The Central Institute of Scientific Research of the Soviet Ministry of Mechanical Engineering developed a wire cold rolling mill, with a final wire diameter of 1.5 - 2 mm. For the production of welded tubes of small diameter and thin walls, the Soviet Union will construct tube rolling mills with a production speed of 7 m/sec and more. Another type rolling mill for the production of welded tubes up to 250,000 tons per year will be accomplished by combining a planetary rolling mill with a tube welding installation and a reducing unit, at which the tubes will be welded at a speed of 2 m/sec. The output of this combined installation will be 12 m/sec. An experimental planetary rolling mill for the production of seamless tubes is already in operation in Moscow (Ref. 1). The USSR also built an experimental rolling mill for cold rolling of 25 - 40 mm tubes, by using 10 individually driven rolling stands. Various improvements can be achieved by applying an advanced mechanization connected with an automatic control of different operation phases. Brief reference is made to the maintenance and exploitation of rolling mills. The continuous increase of the rolling speed and the demand for better qualities led to the construction of devices which measure and check the geometrical dimensions even during the rolling operation. Such an apparatus

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New Achievements in the Field of Steel Rolling Mills

was developed by the Central Laboratory of Automation in Moscow. This photoelectric apparatus measures the diameter and ovality of 5 - 12 mm wires during the rolling process at a rolling speed of 10 m-sec with a maximum error of 1 - 1.5%. The quality of the rolled goods was also improved by various new methods. The USSR improved the quality of transformer sheets by using a vacuum treatment of the steel. There are 31 references: 15 Soviet, 13 German and 3 English.

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

R/009/60/000/010/002/009
A125/A126

AUTHOR: Frantiu, Ioan, Engineer

TITLE: A simplified calculation for the quantity of scale formed when heating carbon-steel

PERIODICAL: Metalurgia şi Construcţia de Maşini, no. 10, 1960, 865 - 867

TEXT: The authors presents a simple formula for the calculation of the scale quantity produced in the heating of carbon-steel. The general formula expressing the quantity of scale is:

$$A = a\sqrt{t} \cdot e^{\frac{-b}{T}}, \text{ in g/cm}^2, \quad (1),$$

in which a and b are the constants; t - the duration of the heating, min; T - the heating temperature, ^{o}K; and e - the base of natural logarithms = 2.718. Since this formula does not correspond to the practical requirements, the following formula is recommended:

$$A_T = a_T\sqrt{t}, \text{ kg/m}^2, \quad (3),$$

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in which a_T is the scale formed within one hour at a temperature of T °C; A_T - the scale formed in t hours; and t - the number of hours. In a gradual heating, the temperature increases from 20°C to the maximum, and the steel oxidizes in zones of different temperatures. The scale formed in a previous zone influences its formation in the following zones. For this purpose the scale production is calculated separately for every zone, designated with A_{T_1}, A_{T_2}... etc. A calculation example is given in Table 2. This method can be simplified by calculating the scale quantity until the piece leaves the second zone, computed by using the $t_2 + t_{1r}$ maintainance time:

$$A_{T_{1-2}} = a_{T_2}\sqrt{t_2 + t_{1r}} = a_{T_2}\sqrt{t_2 + \left(\frac{A_{T_1}}{a_{T_2}}\right)^2} = a_{T_2}\sqrt{t_2 + \left(\frac{a_{T_1}}{a_{T_2}}\right)^2 t_1},$$

$$A_{T_{1-2}} = \sqrt{t_2(a_{T_2})^2 + t_1(a_{T_1})^2}.$$

This relation for two heating zones can be generalized for n zones:

$$A_{T_{1-n}} = \sqrt{t_1(a_{T_1})^2 + t_2(a_{T_2})^2 + \ldots t_n(a_{T_n})^2}, \qquad (4).$$

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The results obtained with (4) are practically the same as those calculated by the successive operation with partial formulae. This general formula requires only half as many operations than the convential formula. There are 3 tables and 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc.

Table 2. Example for calculating the scale quantity

Zona i	a_{T_i}	$l_i + l_{(i-1)}$ ore	A_{T_i} kg/m²
1	0,25	$l_1 = 0,3$	$A_{T_1} = 0,25 \sqrt{0,3} = 0,14$
2	0,4	$l_2 + l_{1r} = 0,3 + \left(\frac{0,14}{0,4}\right)^2 = 0,43$	$A_{T_{1-2}} = 0,4 \sqrt{0,43} = 0,26$
3	0,65	$l_3 + l_{2r} = 0,5 + \left(\frac{0,26}{0,65}\right)^2 = 0,66$	$A_{T_{1-3}} = 0,65 \sqrt{0,66} = 0,53$
4	1,1	$l_4 + l_{3r} = 0,6 + \left(\frac{0,53}{1,1}\right)^2 = 0,83$	$A_{T_{1-4}} = 1,1 \sqrt{0,83} = 1,00$
5	2	$l_5 + l_{4r} = 0,6 + \left(\frac{1}{2}\right)^2 = 0,85$	$A_{T_{1-5}} = 2,0 \sqrt{0,85} = 1,85$
6	3,2	$l_6 + l_{5r} = 0,3 + \left(\frac{1,85}{3,3}\right)^2 = 0,61$	$A_{T_{1-6}} = 3,2 \sqrt{0,64} = 2,56$

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

R/009/60/000/011 005/007
A231/A126

AUTHOR: Frantiu, Ioan, Engineer

TITLE: The problem of high-quality thin sheets

PERIODICAL: Metalurgia şi Construcţia de Maşini, no. 11, 1960, 1,001 - 1,008

TEXT: The field of application for high-quality thin sheets made of soft steel is continuously growing. The tendency in general processing is directed towards plastic deformation, preferably by cold dishing. Rumanian plants produce various assortments of sheets, characterized in STAS 1988-59, which includes: TD pickled sheets and TDA pickled sheets for conventional dishing. The chemical composition and mechanical properties of the STAS 1988-59 sheets are compared with GOST 914-56 and DIN 1623 (1959) sheets in Tables 2 and 3. Two Rumanian plants are equipped with non-automatic rolling mills which are processing sheet billets. At the third plant, rolling mills for the processing of sheet billets were installed during the last few years. Rumanian plants can apply only cold rolling. Two rolling mills additionally use straightening and polishing (a 0.5 - 1% cold reduction). Annealing of sheets is accomplished in tunnel furnaces fueled with gas or mazout. Electric furnaces are used in one of the plants. The above-mentioned facts limit

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A231/A126

The problem of high-quality thin sheets

the quality of STAS 1988-59 sheets to use in conventional dishing (TDA). The Rumanian-made thin sheets have the following deficiencies: 1) uneven surface because of adherent scale or scale traces; 2) distortions, grove-shaped distortions; 3) non-unifirm thickness; 4) varying carbon content; 5) non-corresponding mechanical and technological characteristics; 6) neglection of the Erichsen index and sheets non-corresponding for dishing processes; 7) aging of the sheets and appearance of flow lines; 8) appearance of blisters; 9) stratifications and piping traces; 10) mixture of dimensions and materials; and 10) limited number of assortments and insufficient quantity of every assortment. The author gives some advice for the avoidance of these deficiencies. The STAS 1988-59 sheets do not satisfy all demands with regard to surface quality and mechanical and technological properties of thin sheets made of soft steel. The quality of TDA sheets can be improved even at the existing installations. For the production of sheets having a higher quality than the TDA sheets, additional equipment such as reversible cold rolling trains and improved annealing furnaces should be installed. A comprehensive improvement will be achieved by putting modern sheet rolling mills into operation at the new Siderurgical Combine which will be constructed in the Galaţi Region. There are 6 tables, 1 figure and 7 Soviet-bloc references.

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTIU, Ion, ing.

Valorization of some operation data on the annealing of thin steel plates. Metalurgia constr mas 13 no. 4: 279-282 Ap '61.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTIU, Ioan

Ultrasonic welding. Metalurgia constr mas 14 no.10:940-943 O '62.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTIU, Ion, ing.; LOZICIU, Martin, ing.; LAIU, Nicolaie, ing.; IAMAS, V., ing., colaborator; CHIVARA", C., colaborator; DONICI, D., ing., colaborator

Some problems related to the quality of siliceous plates. Metalurgia constr mas 14 no.1:31-35 Ja '62.

1. Institutul de cercetari metalurgice (for Frantiu, Loziciu and Laiu) 2. Uzina de masini electrice "Dinamo," Bucuresti (for Iamas and Chivaran). 3. Institutul de cercetari electrotehnice (for Donici).

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTIU, Ion, ing.

Direct and rapid measurement of iron losses from narrow bands made of transformer and dynamo silicon steel. Metalurgia constr mas 14 no.12:1088-1091 D '62.

1. Institutul de cercetari metalurgice.

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTIU, Ion, ing.

Studies in order to improve pickled sheet for tinning.
Metalurgia constr mas 14 no.6:486-493 Je '62.

1. Institutul de cercetari metalurgice.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTIU, Ion, ing.; CUIDA, Oleg, ing.; LAIU, Nicolae, ing.; LOZICIU, Martin, ing.

Economic and technical aspects of the manufacture and technical aspects of the manufacture and utilization of plated steel rolled goods. Metalurgia Rum 15 no.4:312-316 Ap '63.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTIU, I., ing.

Direct rolling of iron powder straps and sheets. Metalurgia constr mas 15 no.7:468-470 Jl '63.

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L 00881-66 EWP(i)/EPF(n)-2/EWA(d)/EWP(t)/EWP(z)/EWP(b) JD/WW/JG

ACCESSION NR: AP4047857 RU/0017/64/000/009/0381/0386

AUTHOR: Frantiu, I. (Engineer); Laiu, N. (Engineer); Greavu, N. (Engineer)

TITLE: Experiments on the cladding of carbon steel plates with stainless steel

SOURCE: Metalurgia, no. 9, 1964, 381-386

TOPIC TAGS: stainless steel, carbon steel, steel plate, steel cladding, compound ingot, electroslag melting

ABSTRACT: This article describes some aspects and variations of the K.M.K. cladding process, used primarily in the Soviet Union and based on the hot rolling of compound ingots. The purpose of the investigation was to establish optimum conditions for this procedure, using the existing Rumanian installations which - up to the time of publication - did not correspond to modern requirements. The results obtained during the year 1963 are reported in this paper. In the compound ingot procedure, the basic carbon steel is first forged. A package formed by two stainless steel plates, necessary for the cladding, are then introduced into its center. The two plates are kept together by welding their edges and are separated by an inert layer deposited between them. A schematic diagram of the ingot mold is given. The compound ingot thus obtained is passed through the rolling mill, under normal conditions, until twice the thickness of the intended

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final product is achieved. This results in a package formed by two strips or plates, with their edges welded all around. The welded edges are cut, and the two sheets are detached at the level of the separation layer. In this manner, each ingot results in 2 sheets or plates of carbon steel, clad on one side with stainless steel. However, these trials, carried out according to the specifications of the K.M.K. method, did not give the expected results. Two modified trials carried out with two series of seven ingots weighing approximately 800 kg each, and 4 ingots of over 2000 kg each, respectively, are described in detail and 3 schematic diagrams are given. These methods brought about the establishment of a good separation layer. A formula for calculating the cladding coefficient (Ki) is given. A Ki of over 100 is needed for a perfectly successful result. The Ki in the various methods used for the processing of the 800-kg ingots varied from ~ 30 to 60-100. The results obtained with the 2000-kg ingots were less satisfactory. In both cases, the specific quantity (g/m^2) to be deposited on the surfaces was a function of the type of the inert materials and the size of the cladded surface, besides depending on the welding obtained during rolling. The procedure of electroslag melting involves the deposition, on a carbon steel brick, of a stainless steel layer obtained by the automatic melting of steel electrodes in a slag bath. The bath of molten metal is then used for the formation of an alloy, through the addition of alloying elements in granulated form. The steps of this procedure are described in detail, and several diagrams are given.

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This procedure makes possible the rolling of a 20 mm thick compound brick, and its cladding up to a proportion of 15%, without any special difficulties. However, it also necessitates important modifications. Finally, the authors comment on the advantages and disadvantages of each method. "The following persons collaborated in these experiments: Eng. A. Ieremia and Eng. I.Toma of the Combinatul siderurgic Resita (Resita Steel Works), T. Petrescu of I.C.T.C.M., Eng. G. Avram of the Uzina "Republica" ("Republic" Plant) in Bucharest, and Eng. C. Savici and S. Iorga of the Uzina de tabla (Sheet Metal Works) in Galati." Orig. art. has: 12 figures and 2 formulas.

ASSOCIATION: [Frantiu, Laiu] Institutul de cercetari metalurgice (Institute of Metallurgical Research); [Greavu] Institutul de cercetari tehnologice pentru constructii de masini (Institute for Technological Research on Machine Building)

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 001 OTHER: 002

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

BORISOV, L.V.; GAVRILOV, I.I.; KRAITOV, G.A.; SHATOV, I.V.; POLYANTSEV, V.A., otv. red.; MARKOV, L.I., red.

[Use of precast reinforced concrete in the construction of automobile roads for hauling lumber; materials for a conference] Primenenie sbornogo zhelezobetona na stroitel'stve avtomobil'nykh dorog dlia vyvozki lesa; materialy k soveshchaniiu. Moskva, TSentr. nauchno-issl. in-t mekhanizatsii i energetiki lesnoi promyshl., 1964. 71 p.
(MIRA 18:5)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

SOV/169-59-5-4562

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 5, p 42 (USSR)

AUTHORS: Sheynmann, S.M., Frantov, G.S.

TITLE: Magnetic Dipole Above a Double-Layer Medium. On the Geologic Mapping by Means of Aeroelectric Prospecting

PERIODICAL: Tr. Vses. n.-i. in-ta metodiki i tekhn. razvedki, 1958, Nr 1, pp 161 - 188

ABSTRACT: Comparing the various methods of aeroelectric prospecting, the authors come to the conclusion that using, as source of the field, closed loops with alterating current of audio frequency offers the most suitable for practice method, if the closed loops are moving together with the aircraft, as well as the receiver of the field. Basing on the described method, the authors analyze the field of a magnetic dipole above the original rocks covered with the overburden having a good conductivity. The developed theory can be applied to media, which are not bounded in horizontal directions. If the structure of the ground is more complicated, the method allows the estimation of the expected order of variations

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SOV/169-59-5-4562

Magnetic Dipole Above a Double-Layer Medium. On the Geologic Mapping by Means of Aeroelectric Prospecting

of the secondary magnetic field. The expounded theoretical considerations made it possible to draw the conclusion that the aeroelectric prospecting using magnetic dipole can provide a valuable material for charting the resistance of the original rocks. The accuracy of determining the contacts of different rocks increases with an increased ratio of their conductivity. It is possible to distinguish confidently the rocks from each other, if their conductivities differ by a factor of 5 - 6 and the thickness of the overburden does not exceed 20 - 30 m. The presence of horizontal stratification in the upper mellow layer cannot hinder, under certain conditions, the application of the theory. In the authors' opinion, in the present stage of development of the aeroelectric prospecting, the proposed theory can be useful for experimenters, planners and prospectors.

A.A. Smirnov

Card 2/2

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTOV, G. S.

132-1-12/15

AUTHORS: Artamonov, L.V., Frantov, G.S., and Shuval-Sergeyev, K.M.

TITLE: New Methods of Electric Prospecting (O novykh metodakh elektrorazvedki)

PERIODICAL: Razvedka i Okhrana Nedr, 1958, № 1, pp 53-57 (USSR)

ABSTRACT: The efficiency of electric prospecting operations was considerably increased by introducing the method of aerial electric prospecting. Valuable data for numerous districts were obtained by using aerial radiometric surveying methods. At the present time, aerial prospecting is being conducted by a number of USSR organizations. Besides the "VITR", the following institutions took part in this work: Institute for Mechanical Engineering and Automatics of the Ukrainian SSR Academy of Sciences (Institut mashinovedeniya i automatiki), the Moscow State University and the Institute for Soil Physics of the USSR Academy of Sciences (Institut fiziki zemli). At present, there are four different methods of aerial prospecting, each of which has its own characteristics. 1) The study of an electromagnetic field of an above surface source in motion by establishing a directly contact with the earth. 2) The method of measuring its own electromagnetic field from the air, together with the receiving-measuring device.

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New Methods of Electric Prospecting 132-1-12/15

3) The measuring of the intensity of the magnetic field of the broadcasting radio station in relation to the geological formation of the district. 4) The measuring of changes of resistance by radiation of electric and magnetic antenna, caused by the characteristics of the geological structure of the district.

There are five figures.

ASSOCIATION: V I T R
All-Union Sci Res Inst. Metodiki i Tekhniki razvedki

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

SHUVAL-SERGEYEV, N.M.; FRANTOV, G.S.

Experimental aerial surveys by the endless cable method. Sov. geol. 2 no.1:112-120 Ja '59. (MIRA 12:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metodiki i tekhniki razvedki.
(Aeronautics in geology)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTOV, G.S.; SHUVAL-SERGEYEV, N.M.

Using the infinitely long cable method in aerial electric surveying. Razved. i okh. nedr 26 no. 1:37-42 Ja '60.
(MIRA 13:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metodiki i tekhniki razvedki.
(Aeronautics in geology) (Electric prospecting)
(Sulfides)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

VELIKIN, Aleksandr Borisovich; FRANTOV, Grigoriy Sergeyevich; SHEINMANN, S.M., nauchnyy red.; SAFRONOVA, I.M., tekhn. red.

[Electromagnetic fields used in induction methods of electric prospecting; review of foreign literature] Elektromagnitnye polia, primeniaemye v induktsionnykh metodakh elektrorazvedki; obzor zarubezhnoi literatury. Leningrad, Gostoptekhizdat, 1962. 351 p. (MIRA 15:7)

(Electromagnetic prospecting)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

VELIKIN, A.B.; FRANTOV, G.S.; SHEYNMAN, S.M.

Interpretation in multifrequency inductive electric prospecting.
Prikl. geofiz. no.31:165-178 '61. (MIRA 15:3)
(Electromagnetic prospecting)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

S/169/63/000/002/115/127
D263/D307

AUTHORS: Frantov, G. S. and Shuval-Sergeyev, N. M.

TITLE: Aeroelectric exploration on the territory of Southern Ural and Kazakhstan

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 2, 1963, 32, abstract 2D193 (Byul. Nauchno-tekhn. inform. M-vo geol. i okhrany nedr SSSR, 1962, no. 1 (35), 85-88)

TEXT: The main results are given of an aeroelectric survey carried out by the method of infinitely long cable, on the territories of Southern Ural and Western Kazakhstan. To investigate the possibilities of this method in S. Ural, the authors chose a Cu pyritic deposit within the copper-bearing belt of effusive rocks. The resistance of enclosing rocks varied from 100 - 400 to a few thousand ohms. The Cu pyritic deposits had the form of lens of massive or vein-disseminated ores, containing pyrite, chalcopyrite, sphalerite, bornite, and galenite. The massive ores were well conducting and non-magnetic. Above the fundamental rocks there was a low-re-

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Aeroelectric exploration on ...

sistance covering layer. The 20 km long cable was extended parallel to the structures, 7 km to the West of the deposit. The receiving and measuring apparatus was carried on an МИ-4 (MI-4) helicopter. The receiver frames were placed in a gondola suspended 20 m below the helicopter. Flight altitude was 50 m; in individual profiles measurements were made at various heights. Ground measurements confirmed the results of aeroelectric exploration. Analysis of the materials showed that the infinite cable method yields valuable information both in the search for orebodies and in geological charting. [Abstracter's note: Complete translation.]

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTOV, G.S.

Electromagnetic field generated by an infinite cable placed over a two-layer medium (wave zone). Geofiz. prib. no.15:27-39 '63. (MIRA 17:4)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

POLYAK, M.K.; SMIRNOVA, I.A.; FRANTOV, G.S.

Aeroelectric prospecting using the infinitely long cable method in the Kola Peninsula. Sov.geol. 8 no.2:91-99 F '65.
(MIRA 18:12)

1. Soyuznyy zapadnyy geofizicheskiy trest.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

L 25542-66 EWT(1) GW

ACC NR: AP6007874 SOURCE CODE: UR/0387/66/000/002/0042/0052

AUTHOR: Frantov, G. S.

ORG: All-Union Scientific Research Institute of Prospecting Methods and Techniques (Vsesoyuznyy nauchno-issledovatel'skiy institut metodiki i tekhniki razvedki)

TITLE: Use of the infinite line method for determining the resistivity of a half-space from measurements in aerial electrical prospecting

SOURCE: AN SSSR. Izvestiya. Fizika Zemli, no. 2, 1966, 42-52

TOPIC TAGS: resistivity, prospecting, magnetic field

ABSTRACT: A method is proposed for using graphs to find the resistivity of a uniform half-space. It is assumed that current flows in an infinite line located at the interface between two media. The lower half-space is filled with a homogeneous isotropic medium which has a finite conductivity. Conductivity is disregarded in the upper half-space which is assumed to be filled with air. Magnetic permeability is assumed to be everywhere the same as in a vacuum. Graphs are given showing the real and imaginary parts of the horizontal component of the magnetic field perpendicular to the infinite line as a function of distance for frequencies of 244, 488, 976 and 1952 cps which are frequently used in aerial electrical prospecting. Formulas are given for determining the distortion introduced by use of a finite cable. An example is given

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L 25542-66

ACC NR: AP6007874

illustrating use of the proposed method for plotting a map of resistivities on an area of 450 km^2. The author is sincerely grateful to V. I. Dmitriyev for discussing a number of theoretical problems encountered in this work. Orig. art. has: 6 figures, 25 formulas.

SUB CODE: 08/ SUBM DATE: 060ct64/ ORIG REF: 008/ OTH REF: 002

Card 2/2 UCR

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

GAVRYUSHOV, V.V.; FRANTOV, R.B.

Postoperative anesthesia in surgery of newborn infants and nursing infants; preliminary report. Khirurgiia 39 no.7:67-71 Jl'63 (MIRA 16:12)

1. Iz khirurgicheskogo otdeleniya (zav. - kand. med. nauk. A.G. Pugachev, nauchnyy rukovoditel' - prof. S. Ya., Doletskiy) Instituta pediatrii AMN SSSR.

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

PASHERSTNIK, L.A. ;FRANTOV, R.B.

Use of muscle relaxants on newborn and breast-fed children.
Pediatriia 42 no.3:61-65 Mr'63 (MIRA 17:2)

1. Iz kliniki detskoy khirurgii (zav. - prof. S. Ya.Doletskiy) TSentral'nogo instituta usovershenstvovaniya vrachey i khirurgicheskogo otdeleniya (zav. - kand. med. nauk A.G. Pugachev) Instituta pediatrii AMN SSSR na baze Detskoy klinicheskoy bol'nitsy imeni Rusakova (glavnyy vrach - zasluzhennyy vrach RSFSR V.A. Kruzhkov).

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

MENYAJOV, N.V., kand. med. nauk; FRANTOV, R.B.

Fluothane anesthesia in surgery of newborn and nursing infants. Sov. med. 28 no.4:48-52 Ap '64.

(MIRA 17:12)

1. Otdeleniye detskoy khirurgii (zav. - kand. med. nauk A.G. Pugachev, nauchnyy konsul'tant prof. S.Ya. Doletskiy) Instituta pediatrii (direktor - dotsent M.Ya. Studenikin) AMN SSSR i TSentral'nyy institut travmatologii i ortopedii (direktor - prof. M.V. Volkov), Moskva.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTOV, R.B.; KUZ'MINOV, O.D.

Testing of attachments to anesthetic apparatus for young children. Nov. med. tekh. no.3:26-28 '65.

(MIRA 19:1)

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

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SOV/117-59-8-41/44

AUTHORS: ~~Frantov, S.S.~~ and Lapitskiy, L.V.

TITLE: A Cabin for Wiping Shop Lantern Panes

PERIODICAL: Mashinostroitel', 1959, Nr 8 (USSR) p. 46

ABSTRACT: In one of the shops of the Avtomobil'nyy zavod imeni I.A. Likhacheva (Automobile Plant imeni I.A. Likhachev) a special cabin has been constructed for wiping lantern panes from inside the building (see drawing). The cabin consists of a welded body that moves on four rollers along the lantern on a special path laid on beams of the transverse girders. There is 1 diagram.

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

MOTYCKA, K.; SOUCEK, J.; SLAVIK, K.; JIRASEK, J.; JIRASEK, A.; Technical assistance: SMETANOVA, R.; FRANTOVA, L.; SIMONOVA, A.

The treatment of experimental mouse hemoblastosis. I. The effect of some new folic acid antimetabolites on cell transplanted leukemia in mice of the AKR strain. Neoplasma (Bratisl.) 11 no.4: 389-397 '64.

1. Institute of hematology and blood transfusion, Prague, Laboratory of protein metabolism and proteosynthesis, Charles University, Prague, I-st pathological-anatomical institute, Charles University, Pregue, Czechoslovakia.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

MOTYCKA, K.; SOUCEK, J.; SLAVIK, K.; Technical Assistance: SKUTANOVA, R.; FRANTOVA, L.; SIMUNOVA, A.

The treatment of experimental mouse hemoblastosis. II. The effect of long-term administration of some folic acid antagonists on mice of the AKR strain. Neoplasma (Bratisl.) 11 no.4:399-408 '64.

1. Institute of hematology and blood transfusion, Prague, laboratory of protein metabolism and proteosynthesis, Charles University, Prague, Czechoslovakia.

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

KHULUBEY, Kh. [Hulubei, H.]; NYAMU, I. [Neamu, I.]; FRANTS, I. [Frant, I.]; MARTALOGU, N. [Martalogu, N.]; SKYNTEY, N. [Scintei, N.]; IVASHKU, M. [Ivascu, M.]; BERINDE, A. [Berinde, A.]

Scattering of low-energy protons on S^{32}. Zhur. eksp. i teor. fiz. 42 no.6:1433-1437 Je '62. (MIRA 15:9)

1. Institut atomnoy fiziki Akademii nauk Rumynskoy Narodnoy Respubliki, Bukharest.

(Protons—Scattering)
(Sulfur)

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FRANTS, I.F.

From now on I. will take care of this problem myself. Nauka i zhizn' 27 no. 4:40-41 Ap '60. (MIRA 14:5)
(Lenin, Vladimir Il'ich, 1870-1924)
(Michurin, Ivan Vladimirovich, 1855-1935)

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTS, L. [Franc, L.]; PAVLOVSKIY, R.

The VUHZ 2000-type creep testing device. Zav.lab. 31 no.4:494-495 '65. (MIRA 18:12)

1. Prazhskiy issledovatel'skiy institut chernoy metallurgii.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

RUSEV, L.; NIKOLOV, G.; FRANTS, S.

Characteristics of the clinical picture of acute nephritis in influenza. Suvrem.med.,Sofia no.8:54-58 '59.

1. Iz Svishtovskata obedinena gradska bolnitsa.
(INFLUENZA compl.)
(NEPHRITIS etiol.)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

RUSEV, Liub.; FRANTS, St.; NIKOLOV, G.

An unusual case of congenital liver cirrhosis with thrombophlebitis of the collateral portal vessels. Suvrem.med.,Sofia no.9/10:190-193 '59.

1. Iz Svishtovskata gradska bolnitsa. Gl.lekar: G. Nikolov.
(LIVER CIRRHOSIS compl.)
(THROMBOPHLEBITIS compl.)
(PORTAL VEINS dis.)

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

KAGANOV, L. (selo Petrovskoye, Stavropol'skogo kraya); FRANTS, V. (selo Petrovskoye, Stavropol'skogo kraya)

The service industries of a district. Mest.prom.i khud.promys. 3 no.7:24-28 Jl '62. (MIRA 15:8)

1. Spetsial'nyye korrespondenty zhurnala "Mestnaya promyshlennost' i khudozhestvennyye promysly".
(Stavropol Territory---Service industries)

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FRANTS, V. (Komsomol'sk-na-Amure)

In a young faraway city. Mest.prom. i khud.promys. 4 no.3:14 Mr '63.
(MIRA16:4)
(Komsomolsk-on-Amur--Service industries)

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTSOVA, V.; FRANTS, Z.; LAMPLOVA, I.

Developmental and species differences in the distribution of phenothiazine derivatives in the tissues of pregnant rabbits and rats and their fetuses. Physiol. bohemoslov. 12 no.2:150-155 '63.
(CHLORPROMAZINE) (MATERNAL-FETAL EXCHANGE)
(PREGNANCY, ANIMAL) (METABOLISM) (PHENOTHYAZINES)

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

ACCESSION NR: AP4009101 S/0056/63/045/006/1822/1826

AUTHORS: Khulubey, Kh.; Frants, Zh.; Martalogu, N.; Sky*ntey, N.; Ivashku, M.; Berinde, A.; Nyamu, I.

TITLE: Scattering of protons with energies below 5 MeV by Ne-20

SOURCE: Zhurnal eksper. i teoret. fiziki, v. 45, no. 6, 1963, 1822-1826

TOPIC TAGS: proton inelastic scattering, excitation function, proton elastic scattering, neon 20, scattered proton angular distribution, compound nucleus, compound nucleus model, excitation mechanism, scattering mechanism

ABSTRACT: To check on the possible formation of a compound nucleus and to investigate the conditions under which the curves of the angular distribution for inelastic scattering change their form, the excitation functions were measured for elastic and inelastic scat-

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

ACCESSION NR: AP4009101

tering of 3.35--5.15 MeV protons by Ne^{20} at an angle of 90°. The angular distributions for 3.65, 400, 4.15, and 4.35 MeV incident protons were also measured. The authors reported similar work at lower energy (Nucl. Phys. v. 39, 686, 1962). Variations in the energy dependence of the excitation function and the angular distributions have confirmed the formation of the compound nucleus during the course of the reaction. Data by H. Heitler, A. N. May, and C. F. Powell (Proc. Roy. Soc. v. 190, 180, 1947) indicating a sharp increase in the elastic scattering differential cross section at angles below 50° are not confirmed. Elastic scattering plays a larger role in the formation of the compound nucleus and this accounts for the observed increase in cross section at large angles. The change in the form of the curves of the inelastically scattered protons can also be attributed to some effects of a compound nucleus in which a limited number of levels is excited. Orig. art. has: 6 figures and 2 formulas.

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

ACCESSION NR: AP4009101

ASSOCIATION: Institute of Atomic Physics, Bucharest, Rumania

SUBMITTED: 24Jun63 DATE ACQ: 02Feb64 ENCL: 00

SUB CODE: PH NO REF SOV: 001 OTHER: 009

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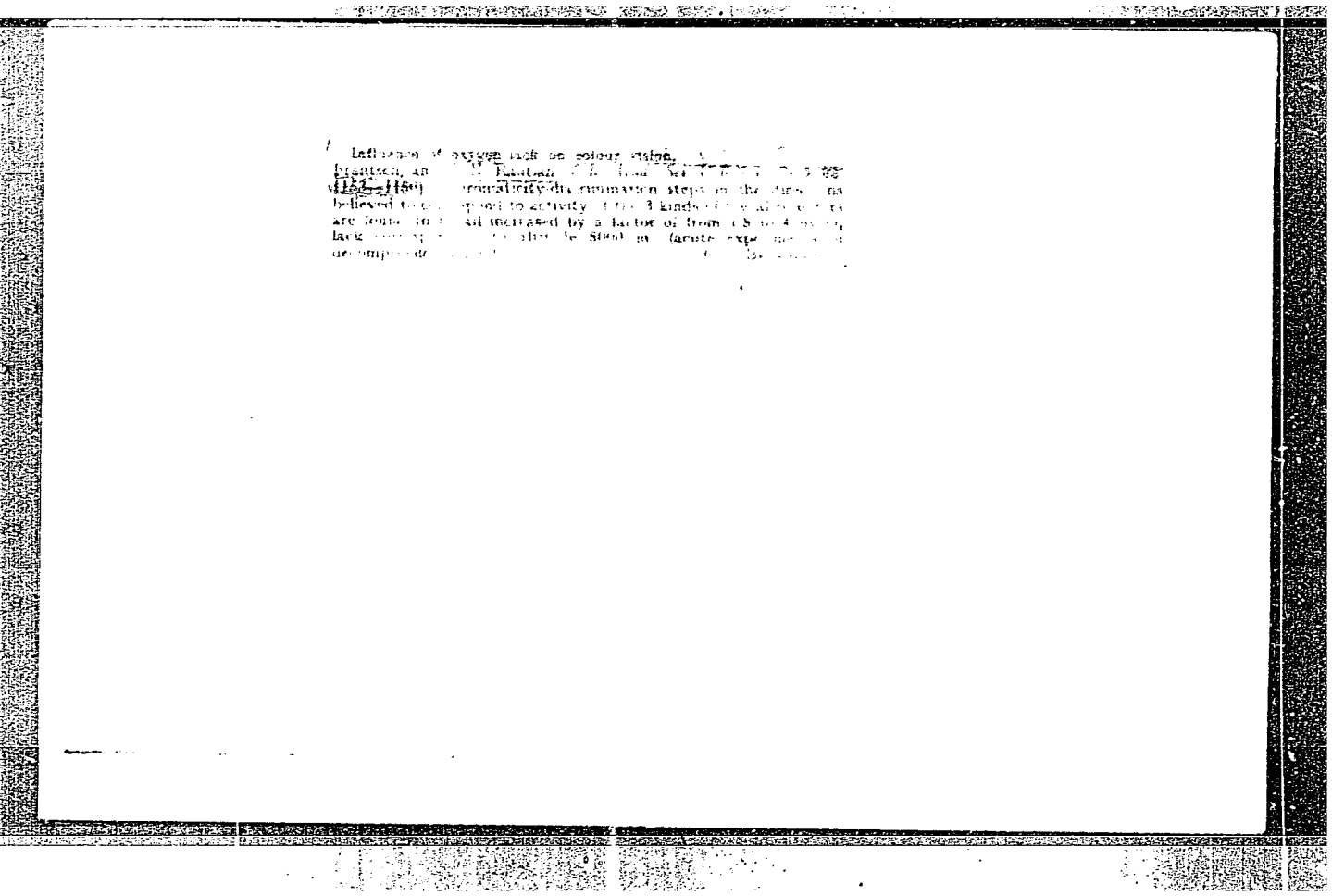

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4

FRANTSEN, B.S., YUSFIN, A.I. (Leningrad)

Effect of hypoxia on color perception [with summary in English]. Fiziol.zhur. 44 no.6:519-525 Je '58 (MIRA 11:7)

(COLOR VISION, physiology,
eff. of anoxia (Rus))
(ANOXEMIA, effects,
on color perception (Rus))

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413610011-4"