L 15033-66
ACC NR: AP6024290

The standard experimental error is 6—8%. The method is accurate, universal and fast, permitting 100 determinations in 15—18 hours. Orig. art. has: 3 figures and 2 tables. [Based on authors' abstract] [KP]

SUB CODE: 20/ SUBM DATE: 02Dec64/ ORIG REF: 009/

Card 2/2 LC

KARPENKO, L.M.;SKLYAROV, Ya.P.

Effect of reflex and direct stimulation of cortical points on the secretion and composition of saliva. Fiziol. zhur. [Ukr.] 5 no.5: 571-574 S-O '59 (MIRA 13:3)

1. L'vovskiy meditsinskiy institut, kafedra fiziologii.
(SALIVA) (CEREBRAL CORTEX)

Karpenko L.N.

AUTHORS: Shveykin, V. V. Dr.ofTech.Sc., Professor. Karpenko,L.N. Eng. (Ural Polytechnical Inst., and Chelyabinskiy Tube Works). 366

TITLE: An improvement of the technology of rolling tubes from ingots. (Uluchsheniye tekhnologii prokatki trub iz slitkov).

PERIODICAL: "Stal'" (Steel), 1957, No.4, pp.340-342 (U.S.S.R.)

ABSTRACT: Improvements in the production of tubes were obtained by using polyhedral ingots instead of round ones and by the application of a new profile of the piercing mill rolls (double bevelled grooving, Fig.2b) and of a new mandrel. Casting of polyhedral ingots (27 and 19 faces, Fig.1) decreased the frequency of appearance of longitudinal cracks (in 5 months the number of ingots for 16" tubes with cracks decreased 2.2 times). A comparison of the output of 14" and 16" tubes, time taken for piercing and average load on the motor during piercing with the new and previous profiles of the piercing mill rolls is given. The wear of rolls with the new profile decreased by a factor of two. There are 3 diagrams.

S/148/61/000/002/005/011
A161/A133

AUTHORS: Shveykin, V.V., Ivshin, P. N., Karpenko, L. N.

TITLE: Experimental determination of pressures and axial slip coefficient in the piercing of large ingots

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no. 2, 1961, 62 - 67

TEXT: The results are given of an experimental investigation of the axial slip in the shell in the piercing mill process with mandrels of different gage, carried out at the Chelyabinskiy truboprokatnyy zavod (Chelyabinsk Tube Rolling Plant). The purpose was to find out the metal pressure on the mill rolls and the mandrel in rolling with new standard roll gages (УПИ (UPI)) that has replaced since 1959 the old "UPI" of 1954. Ingots with 547/531 and 615/500 mm diameters (i.e, diameters of the bottom and top ingot ends) were pierced on 375 and 425 mm diameter mandrels of "20" and Ст.Д (St.D) steel. The slip was studied simultaneously as to its considerable effect on the metal pressure and its dependence on the pressure. It was determined by marks made on the mandrel rod and on the water feed pipe above it, and measuring the mean time during which the shell passed every

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marked distance. The accuracy of such measurements is considered sufficient for practical purposes. The results of slip measurements are illustrated in a graph. The metal pressure on the rolls and on the mandrel were measured simultaneously. The measuring instruments were dynamometers with wire pickups, and the indicating devices were especially calibrated galvanometers taken from shield-type thermocouples. The readings of three galvanometers showing the pressure on the roll necks and the mandrel, an ammeter showing the motor armature current, a voltmeter measuring the voltage on the armature winding ends, a tachometer, and a clock, as well as two signal lamps were all recorded simultaneously with a motion picture camera. This method is stated to be more accurate and dependable than oscillographing. The determined pressure curves are given. The pressure is different in six different stages. It is shown that the old formulae (recommended in 1951) for calculating axial slip coefficient yielded exaggerated results (2.88). As the measurement results prove, it is only 2.0 and has a tendency to decrease in the direction of piercing. The conclusion is made that the reduced axial slip practically does not raise the metal pressure on the rolls with new gaging, reduces the specific power consumption and the piercing time, and improves the quality of rolled tubes in respect of double skin. There are 5 figures and 2 Soviet-bloc references.

Experimental determination of pressures and ...

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A161/A133

ASSOCIATION: Ural'skiy politekhnicheskiy institut (Ural Polytechnical Institute) and Chelyabinskiy trubnyy zavod (Chelyabinsk Tube Plant)

SUBMITTED: January 29, 1960

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S/133/61/000/002/006/014
A054/A033

AUTHORS: Plyatskovskiy, O. A.; Candidate of Technical Sciences; Pavlovskiy, B.G, Engineer; Karpenko, L. N., Engineer; Starobinets, Ya. S., Engineer

TITLE: The Rolling of Thick-Walled Hollow Billets in Stretch-Reducing Mills

PERIODICAL: Stal', 1961, No. 2, pp. 147 - 151

TEXT: After replacing the piercing units of pilger mills by piercing presses and stretch-reducing mills, the pilger-process became the most economic method for medium and large diameter tube-production. To determine the power and other parameters necessary to design the old type pilger mills and to design new equipment, the UkrNITI and the Chelyabinskiy truboprokatnyy zavod (Chelyabinsk Tube-rolling Plant) made a study of the operation of the piercing unit of the ЧТПЗ (ChTPZ) type pilger equipment. The conventional tube rolling tool of the piercing unit was replaced by working and guide rolls of new design, (Figure 1). Diameter of the working rolls: 730 mm; diameter of the guide rolls: 440 mm; incline angle of the forming cone:

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V

S/133/61/000/002/006/014
A054/A033

The Rolling of Thick-Walled Hollow Billets in Stretch-Reducing Mills

3°30'; angle of feed: 4°; dimensions of mandrels: L = 487 and 530 mm R_1: 330 and 380 mm; A = 267 and 310 mm. The hollow billets processed in the stretch-reducing mills had the following dimensions:

576 x 350 x 1600 mm
572 x 300 x 1500 mm
636 x 390 x 1500 mm.

To investigate the laws of changing wall-thickness during the rolling-out process some billets were bored in such a way, that their axis was displaced in relation to the center of the machine. As a result of this billets were obtained with wall-thichnesses deviating by 25%. The torsion during rolling was determined by longitudinal grooves (15 mm wide, 10 mm deep) made in the billets. The metal flow was observed by fitting in holes drilled into the billet walls 20X (20Kh) type steel screws and welding them at the contact places on to the external surface. The metal pressure on the working roll

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The Rolling of Thick-Walled Hollow Billets in Stretch-Reducing Mills

and mandrel rod, the torque on the engine axis were registered by several pickups. The oscillograph indicating the torque also registered the current intensity of the engine, and a special device indicated the rotation speed of the rolls. The actual volocity of axial displacement of the billet was measured by the path covered by the front part of the billet during a given time, while the focus of deformation was filled in with metal. The tangential velocity was defined by the recorded rotation number of the front and rear part of the billet. When calculating the coefficients of tangential slip, the theoretical speed of tangential displacement of the billet, V_t, was determined with the formula:

$$V_t = \frac{\pi D_x n}{06} \sqrt{\cos^2\alpha \cos^2\omega + \sin^2\omega}$$

(D_x = roll diameter in the sector investigated, in mm, n = roll rotation speed, rpm; α = feed angle, °; ω = angle (°) formed by the horizontal plane passing through the axis of the roll in the given roll-section and by the straight line passing at the same time through the center of the given section and the assumed point of application of the vector of peripheral speed

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of the roll. Part of the billets (dimensions 576x350 and 572x300 mm) were heated up to 1250°C and rolled into tube blanks of 478x330 mm with thinner walls, while the 636x390 mm billets were rolled on the same rolls into 558x 386 mm tube blanks. The study of the longitudinal sections of billets, braked in the deformation focus and curves of changes in the wall thickness along the deformation focus show that maximum deformation takes place between the flange (30 mm high) of the roll and the mandrel. The change in wall-thickness during rolling was indicated by the change in the transversal rings carved into the billets along their entire length and it was observed that for billets, the wall-thickness of which varied between 17 and 25%, the wall-thickness was reduced about 1.5-2.0 times. However, rolling billets, with a wall-thickness not changing more than 8-10%, - showed no modification in this respect. The main deformations of the circular screws fixed in the billet walls took place during processing in the stretching-reducing mill in axial direction with a simultaneous torsion in tangential direction. The peripheral layers flow more quickly in these directions than the internal ones. This

The Rolling of Thick-Walled Hollow Billets in Stretch-Reducing Mills

also went to show the inequality of deformation of the hollow billet wall-thickness. The angle of pitch of the torsional line varied between 12 and 36°, indicating the irregularity of the process in time. For the coefficients of axial and tangential slip the following values were obtained:

Dimensions of the initial and the rolled tube blank (mm)	576x350 / 478x330	572x300 / 478x330	636x390 / 558x386
Elongation coefficient	1.75	2.0	1.55
Average values of the coefficient of axial slip	0.45-0.55		0.47-0.56
and of tangential slip			
at the input section of the roll	1.10	1.075	1.074
at the center of the flange	1.03	0.948	0.830
at the output	0.94	0.853	0.797

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The power coefficients of elongation and piercing showed that it was possible to apply the piercing units of pilger mills to double-roll stretch-reducing (elongating) mills. Both processes were characterized by the increase in the ratio of metal pressure on the roll at the input side of the roll to the metal pressure at the output. There are 3 figures and 3 tables.

ASSOCIATION: UkrNITI and Chelyabinskiy truboprokatnyy zavod (Chelyabinsk Tube-rolling Plant)

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A054/A033

The Rolling of Thick-Walled Hollow Billets in Stretch-Reducing Mills

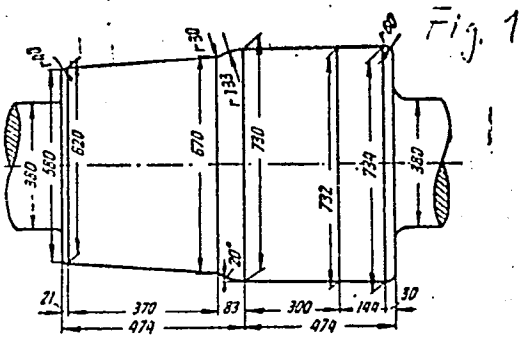

Figure 1

Calibration of the working roll of the stretch-reducing mill

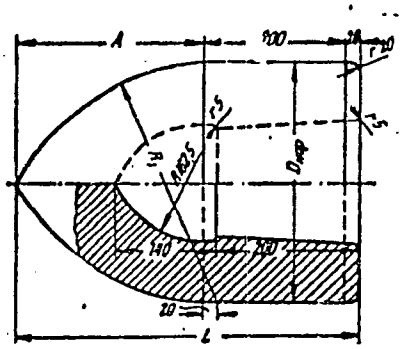

Figure 2

Calibration of the mandrel of the stretch-reducing mill

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The Rolling of Thick-Walled Hollow Billets in Stretch-Reducing Mills

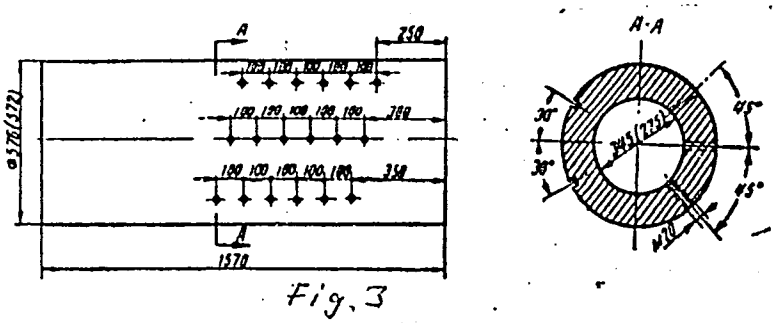

Fig. 3

Figure 3

Arrangement of screws in the billet-wall before rolling on the stretch-reducing mill

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The Rolling of Thick-Walled Hollow Billets in Stretch-Reducing Mills

Figure 5

Change of the wall-thickness of the billet, retarded in the stretch-reducing mill

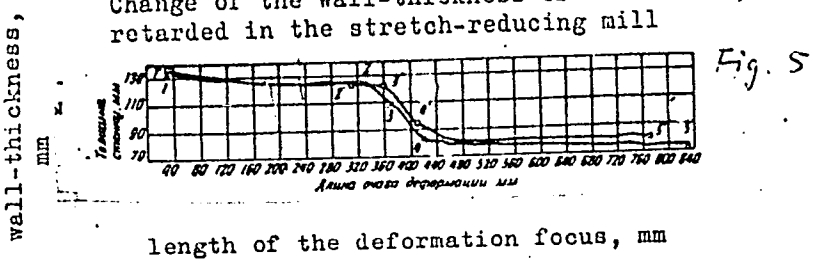

Fig. 5

1-2 (1'-2')-working sectors of the entering cone
2-3 (2'-3')-idem, of the flange, without mandrel
3-4 (3'-4')-idem, for flange and mandrel
4-5 (4'-5')-idem, for the polishing sector of roll and mandrel

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The Rolling of Thick-Walled Hollow Billets in Stretch-Reducing Mills

A Показатели	B Размеры слитка (числители) и получаемой гильзы (знаменатели), мм				
	385×370 / 385×230	490×475 / 500×375	547×531 / 550×390	615×600 / 620×435	625×100* / 638×435
1 Коэффициент вытяжки	1,48	1,75	2,0	1,9	1,87
2 Диаметр оправки, мм	220	325	375	425	425
3 Скорость вращения валков, об/мин.	34,0	31,5	28,5	27,5	27,5
4 Температура металла, °С	1130	1130	1140	1130	1130
5 Среднее давление металла на валки, т:					
$P_{вх}$ максимальное	150	155	170	240	165
$P_{вых}$ максимальное	168	150	120	110	138
$P_{ср}$:					
максимальное	318	305	290	350	303
среднеквадратичное	223	229	213	219	205
$P_{вх} : P_{вых}$	0,90	1,05	1,53	1,63	1,20
6 Среднее максимальное давление на оправку, т	—	46	60	54	44
7 Средний крутящий момент на валу двигателя, тм:					
максимальный	23,5	42,5	41,0	53,5	36,0
среднеквадратичный	14,5	21,6	25,0	26,0	25,0
8 Средняя расходуемая мощность, квт:					
максимальная	1945	3430	3000	3810	2550
среднеквадратичная	1150	1820	1785	1750	1750

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The Rolling of Thick-Walled Hollow Billets in Stretch-Reducing Mills

Table 3:

Characteristics of the process of piercing on the piercing mill ChTPZ (roll diameter: 730 mm)

A - Indices,
B - Billet dimensions and the dimensions of the tube blank formed, mm (numerator/denominator);

1 - Elongation coefficient;
2 - Mandrel diameter, mm;
3 - Rotation speed of rolls, rpm;
4 - Metal-temperature, °C;
5 - Average pressure of metal on the roll, t: P_{in} maximum, P_{out} maximum, P: maximum, mean-square;
6 - Average-maximum pressure on mandrel, ton;
7 - Average torque on motor-shaft, tm: maximum, mean-square;
8 - Average power consumption, kwh: maximum, mean-square;
9 - Average coefficient of slip: axial, at output; tangential: at input,

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The Rolling of Thick-Walled Hollow Billets in Stretch-Reducing Mills

Table 3: (continued)

at the flange, at the output.

Bored billets.

Abstractor's note: subscript 'in' is the translation of the Russian вх (vkhod), subscript 'out' is the translation of the Russian вых (vykhod)

Table 3 cont.

9 Средние коэффициенты скольжения:					
осевого на выходе	0,78	0,64	0,71	0,64	0,50
тангенциального:					
на входе	1,03	1,028	1,04	1,04	1,00
у пережима	0,91	0,94	0,94	0,98	0,945
на выходе	1,02	1,02	1,05	1,075	1,058

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S/133/61/000/003/010/014
A054/A033

AUTHORS: Shveykin, V. V., Professor, Doctor of Technical Sciences; Orlov, S. I., Engineer; Karpenko, L. N., Engineer

TITLE: Improving the roll-pass designs and mandrels for piercing large ingots

PERIODICAL: Stal', no. 3, 1961, 256 - 259

TEXT: To investigate the principal factors affecting the operation of the piercing mill tests were carried out with the cooperation of P. N. Ivshin, Engineer, to improve the roll-pass designs and mandrels with the purpose: 1) to obtain the smallest possible reduction before the mandrel front piece; 2) to increase the length of deformation focus in the piercing cone; 3) to use piercing mandrels with a shaping nose having an average angle of inclination of 10 - 12°; 4) to apply small angles of inclination of the shaping cone of lateral rolling. As it is not easy to increase roll barrel, the new roll-pass design of the piercing cone has two stages. In the first stage the shaping piercing cone has a great angle of inclina-

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tion (4°). This is necessary to equalize the diameter of the multi-edged billet crosswise and lengthwise. In the second stage the angle of inclination of the effective area of the piercing cone is $2^{\circ}30'$ as compared to $3^{\circ}15'$ in the conventional roll-pass design. The maximum roll diameter is 64 mm nearer to the piercing cone to make it possible to use elongated mandrels. The angles of inclination of the shaping cone are calculated in such a way that the diametrical reduction of the billet before the mandrel nose is at least 5 %, provided this end coincides with the area of contraction. The angle of the shaping cone in transversal rolling was taken as 2°; in this way the diameter of the pierced tube blank is approximately equal to the average diameter of the billet. The profile of the mandrel was designed for three positions: 1) when its nose coincides with the contraction area; 2) when it is 30 mm and 3) when it is 60 mm ahead of the contraction area. When the nose of the mandrel coincides with the contraction area, the coefficient of relative reduction of the wall can be calculated by means of the following formula:

$$\frac{S_o}{S_{t.b.}} = \eta_{red} \qquad (4)$$

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Improving the roll-pass designs ....

where S_o = initial wall-thickness in the plane of the front piece of the mandrel, $S_{t.b.}$ = wall-thickness of the finished tube blank, η_{red} = coefficient of relative reduction of the wall. [Abstractor's note: subscripts t.b., red. (tube blank, reduction) are translations of the original г. (gil'za) and об (obzhatiye)]. The diameter of the tube blank in each section can be calculated from

$$D_i = D_o + 2x \frac{tg\alpha}{\cos\beta} \qquad (8)$$

where x = distance from the origin of the coordinate, α = angle of taper of the rolls in the cone of piercing or transverse rolling, β = angle of inclination of the rolls towards the direction of rolling. The diameter of the mandrel in each section can be drived from

$$d_i = D_i - 2s_i \qquad (9)$$

where s = wall-thickness. The new УПИ-59 (UPI-59) roll-pass design has been tested mainly on 15" diameter billets, pierced with three kinds of

Improving the roll-pass designs ....

mandrels a) short (l = 538 mm; average angle of inclination of the shaping nose of the mandrel: 22°); b) mediumsized (l = 568 mm and 20°) and c) long mandrels (l = 598 mm and 18°). During the tests the following values were determined: billet dimension, its temperature when discharged from the furnace, heating time, duration of transport to the stand and of piercing, the length of the tube blank, piercing temperature, the rate at which the tube blanks are discharged from the stand, the metal pressure on the working rolls and the mandrel, voltage in the winding of motor-rotor. Table 1 shows that optimum results were obtained with the medium-length mandrel, (568 mm: lower specific power consumption, (12 %), increase in the piercing speed, i.e., in the output of the piercing mill) by 10 - 12 % and increases in the output of faultless (1st class) tubes: 93 - 95 % instead of 87 - 90% obtained with the old-roll-pass design. There are 4 figures, 1 table and 1 Soviet reference.

ASSOCIATION: Ural'skiy politekhnicheskiy institut (The Ural Polytechnical Institute) and Chelyabinskiy trubnyy zavod (Chelyabinsk Tube Plant)

Improving the roll-pass designs ....

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A054/A033

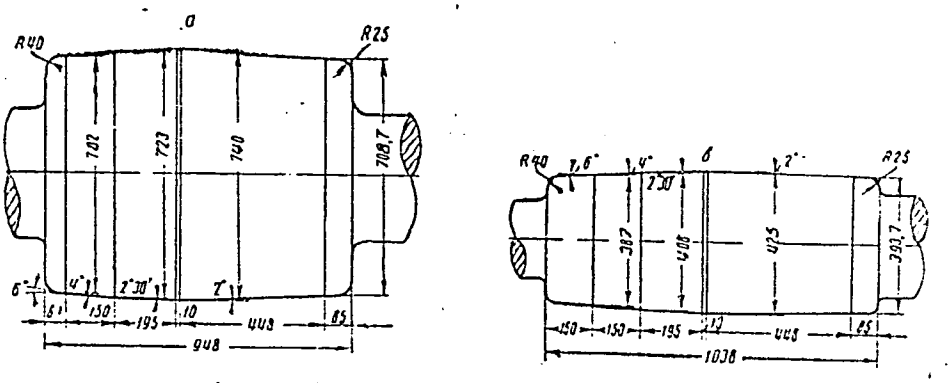

Figure 1: New (UPI-59) roll-pass design for piercing mill rolls, (1) working rolls, (2) guiding rolls

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Improving the roll-pass designs ....

Table 1:

(1) Comparison of the operational parameters of piercing mill mandrels according to the UPI-59 and UPI-54 roll-pass designs; (2) Roll-pass design; (3) Length of mandrel, mm; (4) Steel grade; (5) Velocity of piercing mm/sec; (6) Power consumption kwh/t, (7) Piercing 15"-diameter billets; (8) Piercing 17"-diameter billets; (9) + In brackets: acceleration in the new roll-pass design as compared with the old, in %; (10) ++ In brackets: decrease in power consumption, according to the new roll-pass design, in %; @ UPI-54; Ⓓ UPI-59; c UPI-54; ⓒ UPI-59

(1) Сопоставление показателей работы инструмента прошивного стана по калибровкам УПИ-59 и УПИ-54

(2) Калибровка	(3) Длина оправки мм	(4) Марка стали	(5) Скорость прошивки*, мм/сек	(6) Расход энергии** квт-ч/т
(7) Прошивка слитка диам. 15 дюймов				
(@) УПИ-54	—	20	30,9	15,05
		Д	29,1	16,15
(ⓑ) УПИ-59	538	20	35,6 (+15,2)	14,4 (—4,55)
	568	20	36,6 (+18,4)	13,2 (—12,2)
	598	20	36,6 (+18,4)	13,9 (—11,9)
	538	Д	34,9 (+19,9)	14,4 (—11,1)
	568	Д	—	14,15 (—12,4)
(©) (8) Прошивка слитка диам. 17 дюймов				
УПИ-54	—	20	28,7	13,4
		Д	24,3	15,5
(Ⓓ) УПИ-59	538	20	30,0 (+4,53)	14,64 (—8,7)
	538	Д	30,7 (+26,3)	14,4 (—7,5)

(9) * В скобках—ускорение при новой калибровке по сравнению со старой, %.

(10) ** В скобках—снижение расхода энергии при переходе на новую калибровку, %

Table 1

Card 6/6

SHVEYKIN, V.V.; IVSHIN, P.N.; KARPENKO, L.N.

Experimental determination of pressures and the coefficient of axial slip during the piercing of large ingots. Izv. vys. ucheb. zav.; chern. met. no.2:62-67 '61. (MIRA 14:11)

1. Ural'skiy politekhnicheskiy institut i Chelyabinskiy trubnyy zavod.

(Rolling (Metalwork))

MATVEYEV, B.N.; LINDENBAUM, V.I.; STAROBINETS, Ya.S.; KARPENKO, L.N.;
SHEVAKIN, Yu.F., doktor tekhn.nauk, nauchnyy rukovoditel' raboty

Determining the rolling radius in the hot pilgrim rolling of tubes.
Izv. vys. ucheb. zav.; chern. met. 6 no.11:136-142 '63.
(MIRA 17:3)

1. Moskovskiy institut stali i splavov i Chelyabinskiy
truboprokatnyy zavod.

KARPENKO, L.N.

Dynamic changes in the tissue enzymes of the secretory stimulation of the gastric glands. Fiziol. zhur. 49 no.7:852-856 Jl '63. (MIRA 17:11)

1. From the Department for Normal Physiology of the Lvov Medical Institute, Lvov.

KARPENKO, L.N.

Methods of calculating the stressed state in the vicinity of a shallow working sunk in a vertical coal seam. Fiz.-tekh. probl. razrab. pol. iskop. no.4:3-7 '65. (MIRA 19:1)

1. Institut teoreticheskoy i prikladnoy mekhaniki Sibirskogo otdeleniya AN SSSR, Novosibirsk. Submitted May 13, 1965.

VRONSKIY, G.V.; KARPENKO, L.N.

Studying the hydraulic disruption of an oil-bearing stratum. Cross-shaped crack. PMTR no.1:76-84 Ja-F '61. (MIRA 14:6)
(Oil reservoir engineering)

KARPENKO, L. N.

KARPENKO, L. N.: "The external secretions of the gastric glands and the chemical nature of the mucosa of the stomach" (Experimental research). L'vov, 1955. L'vov State Medical Inst. (Dissertation for the Degree of Candidate of Science of Medical Sciences)

SO: Knizhnaya Letopis', No. 41, 8 Oct 55

Karpenko L.N.

SAVRON', B.S.; KARPENKO, L.N.

Instrument for biopsy of gastric mucosa. Lab.delo 4 no.2:59-61 Mr-Ap '58. (MIRA 11:4)

1. Iz gorodskoy klinicheskoy bol'nitsy No.2 (glavnyy vrach N.F. Kraynyaya) i kafedry normal'noy fiziologii L'vovskogo meditsinskogo instituta.

(BIOPSY--EQUIPMENT AND SUPPLIES)
(STOMACH--EXPLORATION)

KARPENKO, L.N., SKLYAROV, Ya.P.

Role of neural and humoro-chemical factors in the restoration of the secretory functions of the gastric glands [with summary in English]. Fiziol.zhur. 44 no.10:969-975 O '58 (MIRA 12:1)

1. From the department of physiology, Medical Institute, L'vov.
(GASTRIC JUICE,
secretion, neural & humoro-chem. factors in restoration (Rus))

KARPENKO, L.N.; SKLYAROV, Ya.P.

Excitation and inhibition of the cerebral cortex by direct stimulation. Zhur. vys. nerv. deiat. 10 no. 5:732-736 S-O '60. (MIRA 13:12)

1. Kafedra fiziologii L'vovskogo meditsinskogo instituta.
(CEREBRAL CORTEX)

KARPENKO, L. N., and SKLYAROV, YA. P. (USSR)

"Activity of Cholinesterase, Monoaminoxidase and Diaminoxidase of the Gastric Mucosa when a Rest and Active."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 Aug 1961

SKLYAROV, Ya.P.; KARPENKO, L.N.

Effect of food stimulation on the cholinolytic activity of the gastric mucosa. Fiziol. zhur. 47 no.4:472-474 Ap '61. (MIRA 14:6)

1. From the Normal Physiology Chair, Medical Institute, Lvov.
(STOMACH) (CHOLINE)

K-[illegible]KO, T.N.

Cholinesterase, monoamine oxidase and aminoamidase activity in the mucosa of different segments of the stomach. Vop. med. khim. 9 no.2:133-136 Mr-Ap '63. (MIRA 16:8)

1. Kafedra fiziologii [illegible]

L 04562-67 EWT(d) IJP(c)

ACC NR: AP6022527 SOURCE CODE: UR/0040/66/030/003/0564/0569

AUTHOR: Karpenko, L. N. (Novosibirsk)

24
B

ORG: none

TITLE: Approximate solution of a singular integral equation with the help of Jacobi polynomials

SOURCE: Prikladnaya matematika i mekhanika, v. 30, no. 3, 1966, 564-569

TOPIC TAGS: Jacobi polynomial, approximate solution, singular integral equation

ABSTRACT: An approximate solution of a singular integral equation using Jacobi polynomials is presented. Many important problems in the applied sense arise in singular integral equations with constant coefficients on a broken curve. The behavior of the desired function near the end of the curve is characteristic for such a problem. For an approximate solution of such singular equations, it is convenient to use orthogonal polynomials, for which the canonical function of the equation defining the behavior of the solution near the end points is important. If the coefficients of the equation are fixed, then these polynomials will be the Jacobi polynomials. Examples of the application of orthogonal functions for the solution of singular integral equations are given. In this article, a method of solution of singular integral equations with constant coefficients in the interval (-1,1) of the real axis are considered based

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L 04562-67

ACC NR: AP6022527

on the properties of the Jacobi polynomials. Various conditions are imposed at the endpoints of the interval. The author thanks G. N. Pykhteyev for his discussion of the present work. Orig. art. has: 41 formulas.

SUB CODE: 12/ SUBM DATE: 03May65/ ORIG REF: 005/ OTH REF: 001

Card 2/2 eaf

L 57538-65 EWT(d)/EWT(m)/EWP(c)/EWA(d)/EWP(v)/T/ EWP(t)/EWP(k)/EWP(h)/ EWP(b)/EWP(l)/EWA(c) Pf-4 JD/HW

ACCESSION NR: AR5015178 UR/0137/65/000/005/D035/D035

SOURCE: Ref. zh. Metallurgiya, Abs. 5D212

AUTHOR: Rozenfol'd, N. B.; Dykov, F. M.; Kuryatnikov, A. V.; Mogilevkin, F. D.; Kuznyovskiy, N. V.; Karpenko, L. N.; Yerokhin, S. A.; Finkel'shteyn, Ya. S.

TITLE: Increasing accuracy in the production of thin walled tubes in a type 114 automatic apparatus

CITED SOURCE: Sb. Proiz-vo svarn. i besshovn. trub. Vyp. 2. M., Metallurgiya, 1964, 84-88

TOPIC TAGS: metal tube, metal boring, milling machine, metalworking machine/ 114 automatic apparatus

TRANSLATION: The article demonstrates the possibility of manufacturing tubes with diameters of 76, 83, and 89 mm with a wall thickness of 3.25 mm under existing technology. A study was made of the influence of the form of the boring instrument on the accuracy of the wall thickness of rolled tubes, and the expediency of using an automatic mill bit with an "ovalization" of 0.04-1.06 is pointed out. It is established that with a redistribution of the deformation between the first and second passages of an automatic mill (that is, with a decrease in the difference

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ACCESSION NR: AR5015178

between the diameters of the mandrels to 1 mm), the accuracy of the tubes is increased. A. Leont'yev.

SUB CODE: MM, IE ENCL: 00

Card 2/2 dm

MOROZOV, V.I.; AGAFONOV, A.V.; ABAYEVA, B.T.; RYABOV, V.A.; KARPENKO, L.P.; GILYAZETDINOV, L.P.

Production of raw material for carbon black in thermal cracking units. Khim.i tekh.topl.i masel 8 no.1:39-42 Ja '63. (MIRA 16:2)

1. Omskiy neftepererabatyvayushchiy zavod i Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gazov i polucheniyu iskusstvennogo zhidkogo topliva.
(Carbon black) (Cracking process)

KARPENKO, L.I.; PLYATKIN, V.A.; USTENKO, G.F.

Commercial use of sieve trays with baffle elements. Neftepererab. i neftekhim. no.7:40-43 '64. (MIRA 17:11)

1. Omskiy neftepererabatyvayushchiy zavod.

MOROZOV, V.I.; AGAFONOV, A.V.; ABAYEVA, B.T.; KARPENKO, L.V.

Results of the industrial adoption of the production of crude for carbon black in thermal cracking devices. Neftepер. i neftekhim. no.4:18-21 '63 (MIRA 17:7)

1. Omskiy neftepererabatyvayushchiy zavod i Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gaza i polucheniyu iskusstvennogo shidkogo topliva.

KARPENKO, L.V.

ATAULIN, V.V.; VLASOVA, R.M.; DAVYDOVA, Ye.A.; DANILENKO, I.S.; DZIOV, V.A.; DUBROVIN, A.P.; YEFANOVA, L.V.; KARPENKO, L.V.; KLEPIKOV, L.N.; KOTRELEV, S.V.; LUK'YANOV, N.I.; MEL'NIKOV, N.V., prof., obshchiy red.; MKRTYCHAN, A.A.; NEMTINOV, A.M.; POGOSYANTS, V.K.; SEMIZ, M.D.; SKOBLO, G.I.; SLOBODCHIKOV, P.I.; SMIRNOV, V.M.; SUSHCHENKO, A.A.; SOKOLOVSKIY, M.M.; TRET'YAKOV, K.M.; FISH, Ye.A.; TSOY, A.G.; TSYPKIN, V.S.; CHEKHOVSKOY, P.A.; CHIZHIKOV, V.I.; ZHUKOV, V.V., red.izd-va; KOROVENKOVA, Z.L., tekhn.red.; PROZOROVSKAYA, V.L., tekhn.red.

[Prospects for the open-pit mining of coal in the U.S.S.R.; studies and analysis of mining and geological conditions and technical and economic indices for open-pit mining of coal deposits] Perspektivy otkrytoi dobychi uglia v SSSR; issledovanie i analiz gornogeologicheskikh uslovii i tekhniko-ekonomicheskikh pokazatelei otkrytoi razrabotki ugol'nykh mestorozhdenii. Pod obshchei red. N.V.Mel'nikova. Moskva, Ugletekhizdat, 1958. 553 p. (MIRA 11:12)

1. Vsesoyuznyy tsentral'nyy gosudarstvennyy proyektnyy institut "Tsentrogiproshakht." 2. Chlen-korrespondent AN SSSR (for Mel'nikov).

(Coal mines and mining)

1. KARPENKO, M. Ye.

2. USSR (600)

4. Voronezh Province - Agriculture - Experimentation

7. Achievements of agricultural science should be put into collective farm production ("Collection of articles on the scientific achievements of agricultural experimental institutions in Voronezh Province." Reviewed by M. Ye. Karpenko). Dost. sel'khoz. No. 5, 1953.

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

KARPENKO, M.E.

Voronezh Province at the All-Union Agricultural Exhibition. Nauka i pered.op. v sel'khoz. 6 no.12:42-44 D '56. (MLRA 10:1)

1. Direktor pavil'ona "TSentral'nyye chernozemnyye oblasti." (Moscow--Agricultural exhibitions) (Voronezh Province--Agriculture)

KARPENKO, M.

KARPENKO, M. A divided grain harvest. Tr. from the Russian. p. 325.

Vol. 6, No. 17, Sept. 1956.
MECHANIZACE ZEMEDELSTVI.
AGRICULTURE
Praha, Czechoslovakia

So: East European Accession, Vol. 6, No. 3, March 1957

KARPENKO, M. E.

YAKUSHKIN, I.V., akademik, redaktor; VARUNTSYAN, I.S., akademik, redaktor; KARPENKO, M.E., redaktor; SOKOLOVA, N.M., tekhnicheskiy redaktor; ZUBKINA, Z.P., tekhnicheskiy redaktor

[Breeding sugar beets for high sugar content; proceedings of the plenum of the industrial crops section of All-Union Academy of Agricultural Sciences] Selektsiia sakharnoi svekly na povyshenie sakharistosti; trudy plenuma sektsii tekhnicheskikh kul'tur, 23-25 noiabria 1954 g. Moskva, Gos.izd-vo sel'khoz.lit-ry. 1957. 277 p. (MIRA 10:10)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni V.I. Lenina. Sektsiya tekhnicheskikh kul'tur.
(Sugar beet breeding)

KARPENKO, M.E.

In the "Zemledelie" pavilion. Zemledelie 7 no.7:9-14 Jl '59.
(MIRA 12:9)

1. Direktor pavil'ona "Zemledeliye" Vystavki dostizheniy narodnogo khozyaystva SSSR.
(Moscow--Agricultural exhibitions)

KARPENKO, M.E.

Make use of all possibilities for increasing the production and decreasing the cost of sugar beets. Zemledelie 7 no.9:9-14 S '59.
(MIRA 12:11)

1. Direktor pavil'ona "Zemledeliye" Vystavki dostizheniy narodnogo khozyaystva SSSR.

(Sugar beets)

BALAYEV, Petr Mikhaylovich; KARPENKO, M.E., otv. za vypusk; GOLOVNEV, A.A., spets. red.; MEL'NIKOVA, M.S., red.; BALUNOV, A.A., tekhn. red.

[Turf-Podzolic soils and how to improve their fertility] Dernovo-podzolistye pochvy i puti povysheniia ikh plodorodiia. Moskva, 1960. 24 p. (MIRA 14:11)

1. Moscow. Vystavka dostizheniy narodnogo khozyaystva SSSR.
(Podzol) (Soil fertility) (Tillage)

BEYKO, I.V.; [illegible]

A method of devising optimum controls. Izv. AN USSR no. [illegible]-
[illegible] 1963. (Vol. 1:10)

1. Institut kibernetiki AN USSR.

BEYKO, I.V.; KARPENKO, M.F.

Use of the successive approximation method in solving nonlinear optimal problems. Dop. AN URSR no. 12:1563-1568 '64. (MIRA 18:1)

1. Institut matematiki AN UkrSSR. Predstavleno akademikom AN UkrSSR Yu.A.Mitropol'skim [Mytropol's'kyi, IU.O.].

L 33234-65 EWT(d) Pg-4 LJP(c)
ACCESSION NR: AP5002239 S/0021/64/000/012/1563/1568

AUTHOR: Beyko, I. V.; Karpenko, M. F.

TITLE: Solution of non-linear optimal problems by the method of successive approximations

SOURCE: AN UkrSSR. Dopovidi, no. 12, 1964, 1563-1568

TOPIC TAGS: control theory, differential equation, linear differential equation, algorithm, approximation

ABSTRACT: The paper considers the design of controls u for a system operating according to the system of differential equations

$$\frac{dx}{dt} = f(x, u) \quad (x = (x_1, x_2, \ldots, x_n),\ u = (u_1, u_2, \ldots, u_r)). \qquad (1)$$

The first problem considered concerns determining u(t) so that $M(T, u) = \max_t |u_i(t)|$ is a minimum, the system operates according to the function x(t) satisfying (1), and the following boundary condition is satisfied:

$$x(0) = x^0, \quad R(x(T)) = \sum_{i=1}^{n} [x_i(T) - x_i^1]^2 < \delta \qquad (2)$$

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L 33234-65
ACCESSION NR: AP5002239

for a given value of time $T=T_{min}$. The second problem involves determining $u(t)$ so that $M(T,u)$ is a minimum for a given T. Both of these problems are solved by variational methods. Algorithms are developed which allow calculation of controls which become increasingly better, in the sense of the two problems defined, as the algorithm proceeds. Orig. art. has: 20 formulas.

ASSOCIATION: Instytut matematyky AN URSR (Mathematics Institute, AN URSR)

SUBMITTED: 18Mar64 ENCL: 00 SUB CODE: MA, IE

NO REF SOV: 004 OTHER: 000

Card 2/2

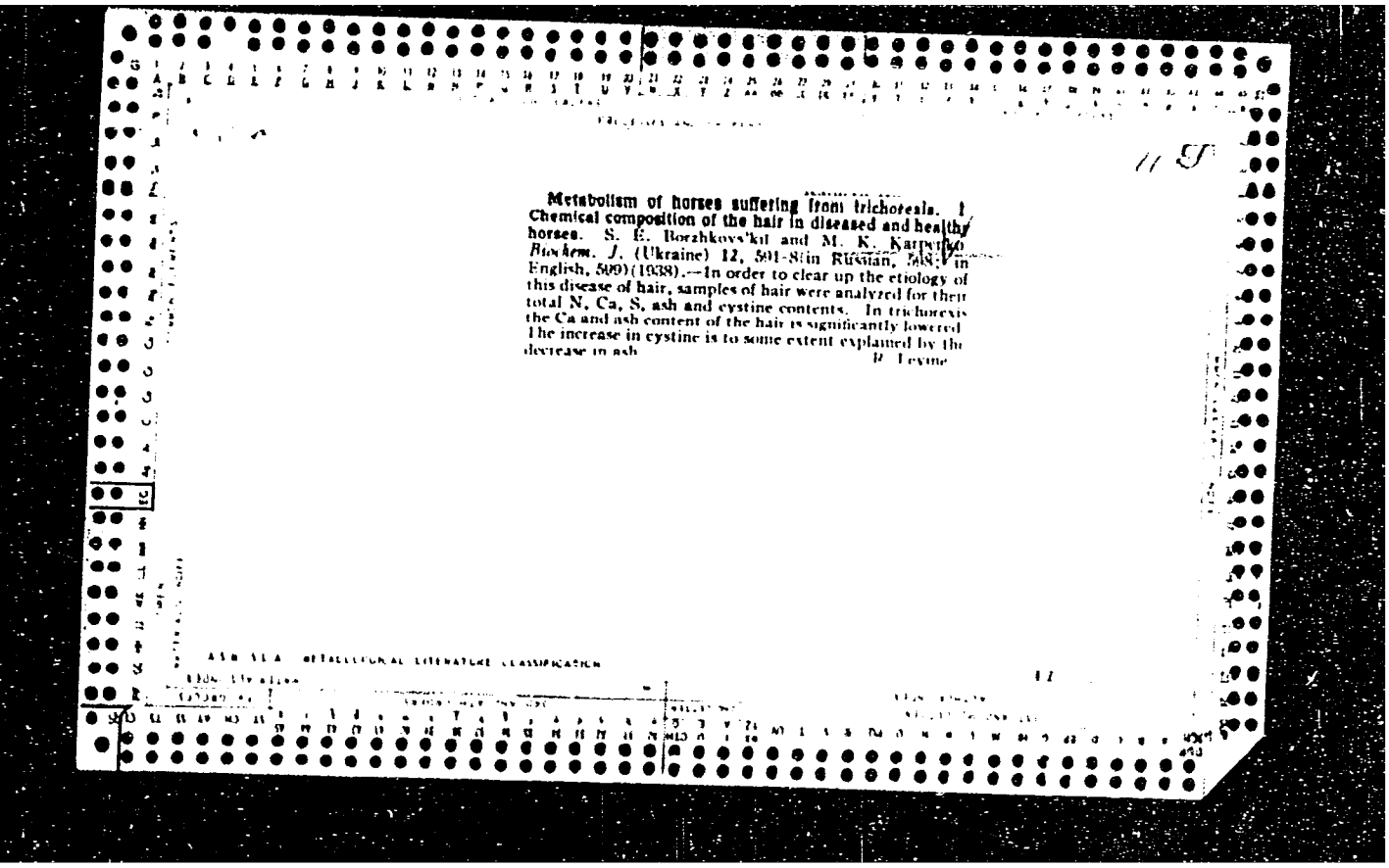
KARPENKO, M.I.

Dynamics of phosphorus in the process of butyl-acetone fermentation.
Mikrobiol. zhur. 15 no.3:27-31 '53. (MLRA 8:1)

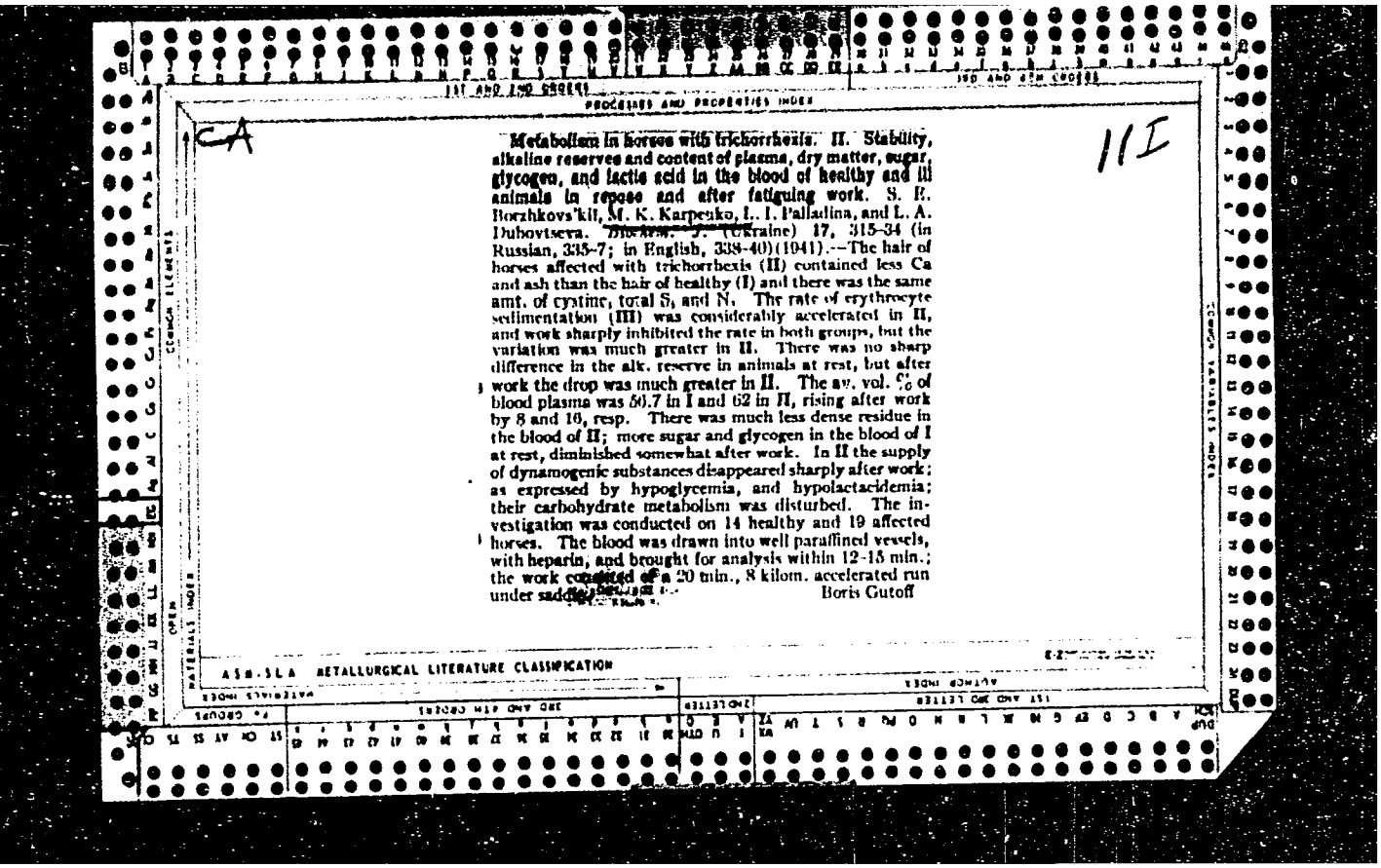
1. Z Institutu microbiologii AN USSR.
(FERMENTATION,
*acetone-butyl fermentation, dynamics of phosphorus in)
(PHOSPHORUS,
*dynamics in acetone-butyl fermentation)

KARPENKO, M.I.

Pilot made of stainless steel. Obm.tekh.opyt.[MLP] no.29: 21-22 '56. (MLRA 10:11)
(Machine-shop practice)



Metabolism of horses suffering from trichotexis. I. Chemical composition of the hair in diseased and healthy horses. S. E. Borzhkovs'kil and M. K. Karpenko. *Biokhem. J.* (Ukraine) 12, 501-8 (in Russian, 508; in English, 509) (1938).—In order to clear up the etiology of this disease of hair, samples of hair were analyzed for their total N, Ca, S, ash and cystine contents. In trichorexis the Ca and ash content of the hair is significantly lowered. The increase in cystine is to some extent explained by the decrease in ash. P. Levine



CA

III

Metabolism in horses with trichorrhexis. II. Stability, alkaline reserves and content of plasma, dry matter, sugar, glycogen, and lactic acid in the blood of healthy and ill animals in repose and after fatiguing work. S. E. Borzhkovs'kii, M. K. Karpenko, L. I. Palladina, and L. A. Dubovtseva. Biokhim. Zhur. (Ukraine) 17, 315-34 (in Russian, 335-7; in English, 338-40)(1941).--The hair of horses affected with trichorrhexis (II) contained less Ca and ash than the hair of healthy (I) and there was the same amt. of cystine, total S, and N. The rate of erythrocyte sedimentation (III) was considerably accelerated in II, and work sharply inhibited the rate in both groups, but the variation was much greater in II. There was no sharp difference in the alk. reserve in animals at rest, but after work the drop was much greater in II. The av. vol. % of blood plasma was 50.7 in I and 62 in II, rising after work by 8 and 16, resp. There was much less dense residue in the blood of II; more sugar and glycogen in the blood of I at rest, diminished somewhat after work. In II the supply of dynamogenic substances disappeared sharply after work; as expressed by hypoglycemia, and hypolactacidemia; their carbohydrate metabolism was disturbed. The investigation was conducted on 14 healthy and 19 affected horses. The blood was drawn into well paraffined vessels, with heparin, and brought for analysis within 12-15 min.; the work consisted of a 20 min., 8 kilom. accelerated run under saddle.

Boris Gutoff

KARPENKO, M.K.

The dhydrogenizing activity of Cl. welchii. Mikrobiol.zhur. 13 no.2: 62-79 '51. (MLRA 9:9)

1. Iz otdela anaerobnykh mikroorganizmov (zav. otdelom - G.M.Frenkel') Instituta mikrobiologii imeni akademika D.K.Zabolotnogo Akademii nauk USSR.

(CLOSTRIDIUM PERFRINGENS) (DEHYDROGENATION)

FRENKEL', G.M.; KARPENKO, M.K.; KOLCHINS'KA, I.D.

Picking and methods of storing the spores of Cl.acetobutylicum. Mikrobiol. zhur. 14 no.2:30-39 '52. (MLRA 6:11)

1. Z viddilu anaerobnikh mikroorganizmiv (zav. - G.M.Frenkel') Institutu mikrobiologii im. akad. D.K.Zabolotnogo Akademii nauk URSR.
(Bacteria, Anaerobic)

FRENKEL', G.M.; KARPENKO, M.K.

Studies on respiration in nonfacultative anaerobic organisms.
Mikrobiol.zhur. 15 no.2:6-16 '53. (MLRA 7:3)

1. Z Institutu mikrobiologii AN URSR. (Bacteria, Anaerobic)

KARPENKO, M. K.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
The Fermentation Industries

Dynamics of phosphorus in the process of acetone-butyl fermentation. M. K. Karpenko. *Mikrobiol. Zhur., Akad. Nauk Ukr. S.S.R.* [illegible] (in Russian, 30-1) (1953).—The process was studied with inorg. and labile, P. The fermentation of the culture of *Clostridium acetobutylicum* in rye mash shows active consumption of both after 14–16 hrs. (drop in activity), after 24 hrs. (period of starch disappearance from the medium), and after 36 hrs. (the period of max. accumulation of solvent). P does not take an active part in the first hr. of fermentation, when the breakdown of the starch is due principally to hydrolysis with the α- and β-amylases. A reduction of the inorg. and a corresponding increase of the labile P in the early hrs. of fermentation were observed. The reduction of Fe activates the metabolism of P without essentially affecting the fermentation.

B. Gutoff

KARPENKO, M.K.

USSR/Chemical Technology. Chemical Products and Their Application -- Fermentation industry, I-27

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 6472

Author: Nepomnyashchaya, M. L., Medvinskaya, L. Yu., Karpenko, M. K., Tevilevich, M. B.

Institution: None

Title: Some Biological Properties of Production Yeast on Operation in Accordance with the Withdrawal Method

Original Publication: Spirt. prom-st', 1955, No 3, 29-30

Abstract: A number of plants have been operating according to the method utilizing fermenting mash in lieu of yeast, which had been proposed by Orlovskiy, Ya. K. (Referat Zhur - Khimiya, 1955, 53936). To determine changes in biological properties of withdrawn yeast, after its prolonged utilization, detailed tests have been conducted, the results of which have revealed that withdrawn yeast adapts itself to the new conditions and, in the absence of infection, exhibits a high

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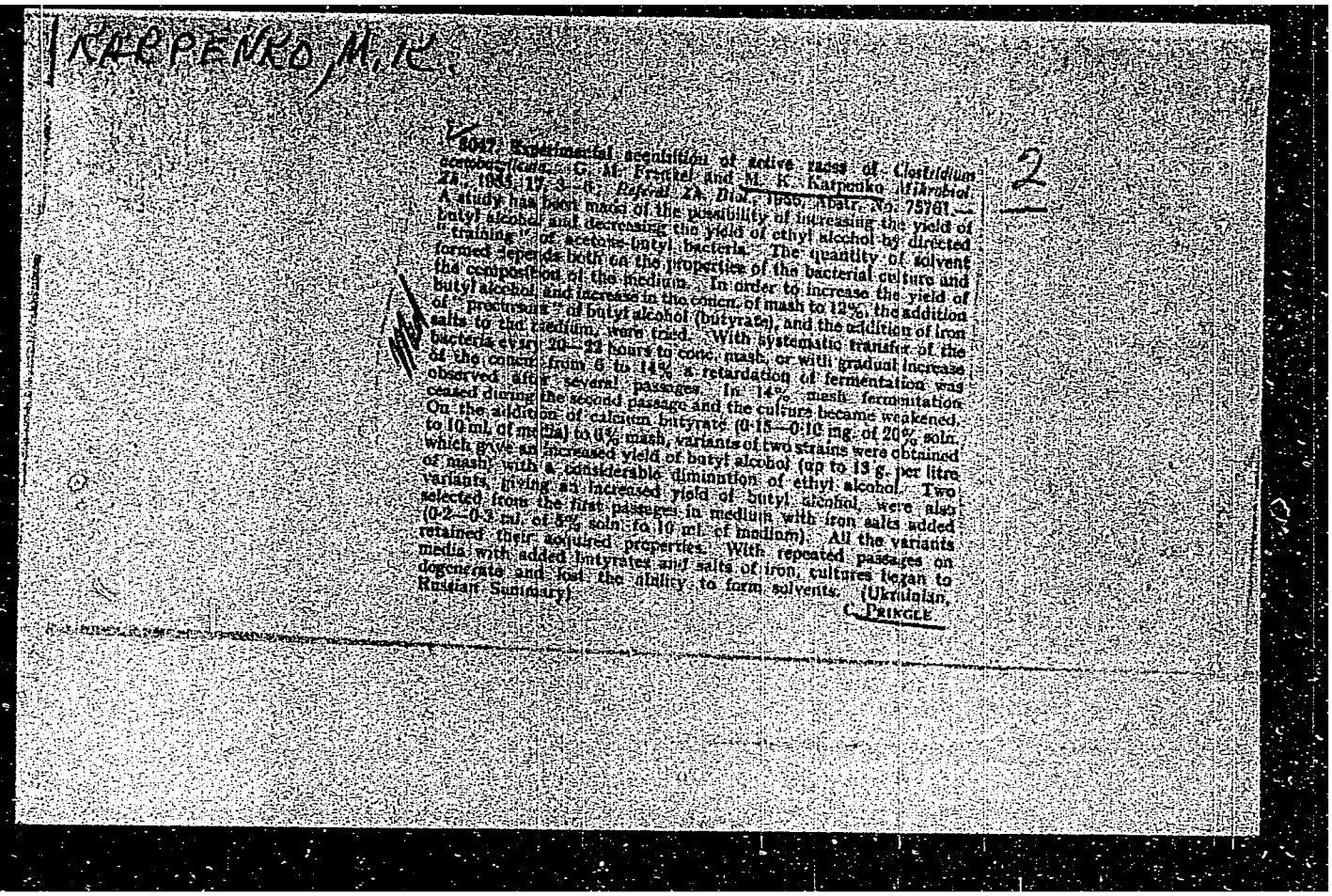

KARPENKO, M.K.

2

8047. Experimental acquisition of active races of *Clostridium acetobutylicum*. G. M. Frenkel and M. K. Karpenko. *Mikrobiol. Zh.*, 1953, 15, 3—6; *Referat. Zh. Biol.*, 1956, Abstr. No. 75781.—A study has been made of the possibility of increasing the yield of butyl alcohol and decreasing the yield of ethyl alcohol by directed "training" of acetone-butyl bacteria. The quantity of solvent formed depends both on the properties of the bacterial culture and the composition of the medium. In order to increase the yield of butyl alcohol and increase in the concn. of mash to 12%, the addition of "precursors" of butyl alcohol (butyrate), and the addition of iron salts to the medium, were tried. With systematic transfer of the bacteria every 20—22 hours to conc. mash, or with gradual increase of the concn. from 6 to 14%, a retardation of fermentation was observed after several passages. In 14% mash fermentation ceased during the second passage and the culture became weakened. On the addition of calcium butyrate (0·15—0·16 mg. of 20% soln. to 10 ml. of media) to 6% mash, variants of two strains were obtained which gave an increased yield of butyl alcohol (up to 13 g. per litre of mash) with a considerable diminution of ethyl alcohol. Two variants, giving an increased yield of butyl alcohol, were also selected from the first passages in medium with iron salts added (0·2—0·3 ml. of 5% soln. to 10 ml. of medium). All the variants retained their acquired properties. With repeated passages on media with added butyrates and salts of iron, cultures began to degenerate and lost the ability to form solvents. (Ukrainian, Russian Summary)

C. Prikett

KARPENKO, M.K.

Studying the respiration and fermentation activity of yeast Saccharomyces cerevisiae (race No.12) during continuous fermentation in plants. Report No.2. Mikrobiol. zhur. 17 no.4:30-35 '55
(MLRA 10:5)

1. Z Institutu mikrobiologii AN URSR
(YEAST) (RESPIRATION) (FERMENTATION)

KARPENKO, M. K.

Properties of some anaerobes in Clostridium. U. M. Frenkel, V. V. Lisaidis, M. K. Karpenko, and I. D. Kokchinskaya (Inst. Microbiol., Acad. Sci. U.S.S.R., Moscow). *Mikrobiologiya* 25, 423-30(1956).—Kok-saghyz rhizospheres yielded *Clostridium* anaerobes which form butanol on potato mash. Rye and corn mashes were less favorable, but some strains after prolonged culture on cereal mashes acquired new fermentation properties, e.g. ability to decomp. Ca lactate. In such culturing nearly all strains lost their solvent-producing capacity. The amylases of most strains were more active to potato and rye starches than to corn starch. No strain liquefied gelatin, and there was very little capacity to degrade potato or cereal proteins. Amino acids and polypeptides of potato mash were assimilated, but not those of cereal mashes. Julian F. Smith

USSR / Microbiology. Technical Microbiology. F-3

Abs Jour: Ref Zhur-Biol., No 16, 1958, 72016.

Author : Karpenko, M. K., Medvinskaya, L. Yu.
Inst : Not given.
Title : Influence of Aeration on the Biological Properties of the Yeasts Saccharmyces cerevisiae (Strain XII) by the Removable Method.

Orig Pub: Mikrobiol. zh., 1957, 19, No 3, 30-35.

Abstract: For the increase of formontation energy in distilleries which work a long time by the removable method, aeration of yeasts was applied before putting them in the production vat. Under laboratory conditions, it is clear that aeration of the yeasts before putting them in vats scimulates their reproduction only in the first 3 hours and increases the alcohol yield by 0.26-0,68%. The

Card 1/2 Inst Microbiology, Acad Sci Ukr SSR

FRENKEL', G.M. [deceased]; KARPENKO, M.K.

Relation between energy processes in certain obligate and facultative anaerobes. Trudy Inst. mikrobiol. no. 6:38-45 '59. (MIRA 13:10)

1. Institut mikrobiologii AN USSR.
(BACTERIA, ANAEROBIC)

KARPENKO, M.K.

Metabolism of nicotinic acid and concentration of diphosphopyridine nucleotide in cells of "active" and "slightly active" cultures of Saccharomyces cerevisiae race "Mz." Mikrobiol.zhur. 21 no.5:18-24 '59. (MIRA 13:2)

1. Iz Instituta mikrobiologii AN USSR.
(NUCLEOSIDES AND NUCLEOTIDES metab.)
(NICOTINIC ACID metab.)
(YEASTS metab.)

KARPENKO, M.K., kand.biolog. nauk

In the Ukrainian Microbiological Society. Mikrobiol. zhur. 23 no.5: 74-75 '61. (MIRA 14:12)

1. Uchennyy sekretar' Ukrainskogo mikrobiologicheskogo obshchestva. (UKRAINE--MICROBIOLOGICAL SOCIETIES)

KARPENKO, M.K.; BURAKOVA, A.A.

Tricarboxylic acid cycle in active and slightly active cultures of the yeast Saccharomyces cerevisiae. Mikrobiol. zhur. 25 no.2:21-26 '63. (MIRA 17:10)

1. Institut mikrobiologii AN UkrSSR.

KARPENKO, M.K.; KVASNIKOV, Ye.I. [Kvasnikov, IE.I.]; PURINOVA, A.A.

Respiration and oxidative phosphorylation in homo- and heterofermentative lactic acid bacteria. Mikrobiol. zhur. 25 no.3:6-13 '63.
(MIRA 18:5)

1. Institut mikrobiologii AN UkrSSR.

KARPENKO, M.K.; KVASNIKOV, Ye.I. [Kvasnikov, IE.I.]; BURAKOVA, A.A.

Dehydrogenase and aldolase activity of homo- and heterofermentative lactic acid bacteria. Mikrobiol.zhur. 26 no.4:37-41 '64.
(MIRA 18:10)

1. Institut mikrobiologii i virusologii AN UkrSSR.

ZELEPUKHA, S.I.; KARPENKO, M.K.; KHARCHENKO, S.M.

Second Congress of the Ukrainian Microbiological Society.
Mikrobiol. zhur. 27 no.3:91-93 '65. (MIRA 18:6)

GASAN-DZHALALOV, A.B.; KARPENKO, M.M.; PROTASOV, G.N.; LOBACHEV, A.A.

[Multiple oil well drilling and operation; from experience of the State All-Union Trust of the Azerbaidzhan Oil and Gas Industry] Burenie i ekspluatatsiia mnogoriadnykh skvazhin; iz opyta ob"edineniia Azneft'. Moskva, Gos. nauchno-tekhn.izd-vo neftianoi i gorno-toplivnoi lit-ry, 1953. 71 p.
(MLRA 6:8)
(Petroleum)

PROTASOV, G.N., kand.tekhn.nauk; KARPENKO, M.M., kand.tekhn.nauk;
KYAZIMOV, Ya.R., inzh.

Some data on exploratory well drilling and stage sinking of wells in complex geological locations. Trudy AzNII DN no.5:69-77 '57.
(MIRA 12:4)

(Boring)

AVANESOVA, A.M., kand.tekhn.nauk; KARPENKO, M.M., kand.tekhn.nauk; PROTASOV, G.N., kand.tekhn.nauk; ASKEROV, A.G., inzh.; MARKAROVA, T.A., inzh.; SAVEL'YEVA, T.A., inzh.; DASHDAMIROV, F.A., inzh.; TARIVERDIYEV, D.A., inzh.

Sinking the N 80 deep exploratory well in the Pirsagat sector. Trudy AzNII DN no.5:78-100 '57. (MIRA 12:4)
(Pirsagat region--Boring)

KASUMZADE, [illegible]; ZAKIROVA, M.M.; SHEVTSOV, A.S.

Selection of and justification for the design of wells 10,000m. deep. Sbor. nauch.-tekh. inform. Azerb. inst. nauch.-tekh. inform. Ser. Neft. prom. no.6:3-17 '63. (MIRA 18:9)

KARPENKO, M.M.; SHARUTIN, A.S.; ASKEROV, K.A.

Turbodrilling and electric drilling in the Karadag oil field. Sbor. nauch.-tekh. inform. Azerb. inst. nauch.-tekh. inform. Ser. Neft. prom. no.6:29-36 '63. (MIRA 18:9)

KASUM-ZADE, D.S.; KARPENKO, M.M.; PROTASOV, G.N.; KARASHARLY, A.G.

Brief review of the studies of drilling methods carried out by the Azerbaijan Scientific Research Institute for Petroleum Production. Trudy AzNII DN no.9:105-109 '60. (MIRA 14:5)
(Azerbaijan--Oil well drilling)

KARPENKO, M.M.; PROTASOV, G.N.; SHEVTSOV, A.S.

Sinking wells 6000 meters deep. Trudy AzNII DN no.9:110-121 '60.
(MIRA 14:5)
(Azerbaijan--Oil well drilling--Equipment and supplies)

PROTASOV, G.N.; KARPENKO, M.M.

Development of air-drilling methods. Trudy AzNII DN no.9:150-159 '60. (MIRA 14:5)
(United States--Oil well drilling)

KARPENKO, M.M.; SHEVTSOV, A.S.; SHALUMOV. Sh.I.

Methods for designing wells and drilling them at depths up to 7000 meters in the Zerya area. Trudy AzNII DN no.10:228-256 '60. (MIRA 14:4)

(Azerbaijan--Oil well cementing)

SAMSONOV, G.V.; YEL'KIN, G.E.; KLIKH, S.F.; BAKAYEVA, R.M.; KARPENKO, M.P.

Selective sorption of vitamin B_{12} in ionites. Med.prom. 14 no.3:3-12 Mr '60. (MIRA 13:6)

1. Leningradskiy khimiko-farmatsevticheskiy institut.
(CYANOCOBALAMINE) (ION EXCHANGE)

KARPENKO, M.P., student

Standardization of invar wires used in engineering geodesy. Trudy MIIGAIK no.44:101-106 '61. (MIRA 14:7)

1. Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii, kafedra vysshevy geodezii.
(Measuring tapes—Standards)

KARPENKO, M.V.; SKOBELEV, Yu.D.; ERENBURG, B.G.

X-ray diffraction method of studying the composition of skarn garnets in iron ore deposits. Geol.i geofiz. no.12:48-56 '61. (MIRA 15:5)

1. Rentgenovskaya laboratoriya Zapadno-Sibirskogo geologicheskogo upravleniya, Novokuznetsk.

(Gornaya Shoriya--Garnet) (X rays--Diffraction)

Karpenko, N.

Beginnings of Soviet standardization. p. 230. NORMALISACE. (Urad pro normalisaci) Praha. Vol. 3, no. 11, Nov. 1954.

Source: EEAL LC Vol. 5, No. 10 Oct. 1956

KARPENKO, Mikhail Vasil'yevich; NEYMAN, M.I., red.; ZUYEVA, N.K., tekhn.red.

[Hygienic principles of work for correspondence school students] Gigiena truda uchashchikhsia-zaochnikov. Moskva, Gos.izd-vo med. lit-ry Medgiz, 1960. 18 p. (MIRA 14:4)
(HYGIENE)

KARPENKO, N., instruktor-aviamodelist (g. Leningrad)

IUrii Ivanov, airplane model builder. Kryl.rod. 3 no.8:10 Ag '52.
(Ivanov, IUrii) (MLRA 8:8)

Karpenko, N.

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

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Screwthreads with a Protective Anti-Corrosive Coating. N. Karpenko. (Strojnicky Obzor, 1950, vol. 30, Apr., pp. [61-64]. [In Czech]. Attention is drawn to the possibility of saving higher priced materials by applying anti-corrosion coatings on screwthreads. The various methods of obtaining anti-corrosive coatings are briefly described and information is given on the permissible dimensional tolerances for threaded parts so treated.—z. o.

KARPENKO, Nikolaj, inz.

Climate technology nomenclature. Cs spoje 9 no.3:31-32 Je '64.

1. Center of Telecommunication Engineering.

KARPENKO, Nikolaj, inz.

Abbreviations in communication engineering. Cs spoje 7 no.9:17 S '62.

1. Hospodarska ustredna spoju.

KARPENKO, Nikolaj, inz.

Ranger 7 on the moon. Cs spoje 9 no.6:27 D '64.

KARPENKO, Nikolaj, inz.

Branch Standard 34 5521:Symbols for designs of overhead telecommunication lines. Slaboproudy obzor 25 no.10:622 O '64.

KARPENKO, N.B.

USSR

Potentiometric Titration of Bivalent Iron, Bivalent Platinum, and Trivalent Iridium When Present Simultaneously. A. A. Grinberg, N. B. Karpenko, and E. A. Maksimyuk (*Zhur. Prikład. Khim.*, 1953, 26, (11), 1107–1113 (in Russian); *J. Appl. Chem. U.S.S.R.*, 1953, 26, (11), 1047–1055 (in English)).—In the curve obtained on potentiometric titration with $KMnO_4$, the Pt partly entered into the jump due to Fe, and partly that due to Ir, the distribution of Pt depending on the relative amounts of the components present. Practically complete sepn. of Pt from Fe could be obtained by increasing the Ir content.—G. V. K. T.

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AUTHORS: Keler, E. K., Karpenko, N. B. SOV/78-4-5-30/46

TITLE: The Conditions for the Formation of Barium Titanate (Usloviya obrazovaniya titanatov bariya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 5, pp 1125 - 1137 (USSR)

ABSTRACT: The conditions for the formation of acid barium titanate by the interaction of $BaCO_3$ with TiO_2 in the solid phase were determined. Experiments were carried out with mixtures of the composition of 50 % by mol TiO_2 and more. The initial material was dried at 120° and herefrom pressed objects were produced under a pressure of 700 kg/cm^2 and burned at 1400°. For the purpose of determining the phase composition of the product obtained X-ray-, chemical- and microscopical analyses were carried out. In some cases also the electrical qualities and the density of the samples were investigated. In the system BaO-TiO_2 barium titanate was found to exist. The phase diagram of the system BaO-TiO_2 was constructed according to data

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supplied by Rase and Roy (Ref 10) and are shown by figure 2. The phase diagram of the system $BaO-TiO_2$ has been constructed in accordance with data obtained from T.Ch.Byatovskiy and N. I. Shchepochkina, and is shown by figure 1. Five samples of the composition 50, 51, 52.5, 53.5 and 55 mol-% TiO_2 were investigated. They were burned at 1350 and 1500°. From X-ray examinations it follows that the samples with 53.5% by mol TiO_2 also barium titanate lines occur besides the structural lines after burning at 1350°. The X-ray photomes of samples with 51 and 52.5 mol-% show no barium titanate lines. The samples burned at 1500° were also subjected to an X-ray examination with the result that new lines were found to occur in samples with 55% by mol-TiO_2, which correspond to the structure of rutile. Chemical and microscopical investigations confirm the results obtained by X-ray examination. The synthesis and the properties of barium titanate were investigated. By the burning of a mixture

of components in the ratio BaO : TiO = 1 : 2 a heterogeneous product is formed after 30 hours, which consists of $BaTiO_3$, $BaTi_2O_5$ and $BaTi_3O_7$. In a mixture of random composition of from 50 to 65% by mol TiO_2, the products $BaTiO_3$ and $BaTi_3O_7$ are formed by burning at a temperature below 1000°, with small quantities of $BaTi_2O_5$. If burning takes place at temperatures of more than 1200° the product contains $BaTiO_3$ and $BaTi_2O_5$. Results show that the velocity of formation of barium titanate is low. Barium titanate crystallizes in form of long, needle-shaped crystals of monoclinic structure. The metals show a high degree of double refraction. The optical character of barium titanate obtained agrees with the data obtained by other authors. The synthesis of barium tri- and barium-tetratitanate were carried out. Mixtures with 70 - 75 mol-% TiO_2 contain barium dititanate and barium trititanate after

 burning at 1150 and 1230°. Mixtures with 75 - 80 % by mol TiO_2

contain barium tri- and tetratitanate. By burning a mixture with 80 mol-% TiO_2 barium tetratitanate is formed. The barium tri- and tetratitanates are optically similar and can therefore be distinguished from each other only with difficulty by microscopical analysis. Barium tri- and tetratitanates are easily distinguishable by means of chemical or X-ray analysis. On the basis of the results obtained a scheme for the phase composition of a mixture of $BaCO_3$+TiO_2 when burned at 1100 - 1350° was constructed. The results obtained are shown by figure 10. There are 10 figures, 5 tables, and 12 references, 4 of which are Soviet.

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