

BUTAYEVA, T. M.: Master Vet Sci (diss) -- "Experimental-clinical data on the effect of neurotropic and estrogenic preparations on the contractive activity of the uterus of cows". Leningrad, 1958. 14 pp (Leningrad Vet Inst Min Agric USSR), 150 copies (KL, No 5, 1959, 154)

BUTAYEVA, T.M.

Effect of carbocholine and estrogenic preparations on the  
uterus of cows in experimental and clinical treatment. Dokl.  
Akad.sel'khoz. 23 no.11:34-37 '58. (MIRA 11:12)

1. Leningradskiy veterinarnyy institut. Predstavlena akademikom  
N.G.Belen'kim.

(Choline--Physiological effect) (Estrogens--Physiological effect)  
(Uterus)

MAKHIN'KO, O. [Makhyn'ko, O.]; BUTCHENKO, F.

Every hectare works for the harvest. Nauka i zhyttia 12 no.2:  
36-37 F '63. (MIRA 16:4)

1. Predsedatel' kolkhosa "Pobeda" Maloviskovskogo proizvodstvennogo kolhozno-sovkhoznogo upravleniya Kirovogradskoy oblasti (for Makhin'ko).

(Kirovograd Province—Field crops)

I 28164-66 EWT(d)/EWT(m)/EWP(o)/EWP(v)/T/EWP(t)/ETI/EWP(k)/EWP(l)/ETG(m)-6 IJP(c)  
ACC NR: AP6010271 JD/AV

SOURCE CODE: UR/0381/66/000/001/0024/0034

AUTHOR: Samsonov, Yu. I.; Teverovskiy, V. I.; Anikeyev, Ya. F.; Spil'nik, V. F.;  
Butenko, A. I.; Vit'ko, P. I. 56

ORG: Ukrainian Scientific Research Tube Institute (Ukrainskiy nauchno-issledovatel'-  
skiy trubnyy institut); Nikopol' Southern Tube Plant (Nikopol'skiy yuzhnotrubnyy  
zavod) E

TITLE: Quality control of thin-walled tubes 18

SOURCE: Defektoskopiya, no. 1, 1966, 24-34

TOPIC TAGS: ultrasonic flaw detector, flaw detection, metal tube, quality control/UDT-4  
ultrasonic flaw detector, IDTs-3M ultrasonic flaw detector 24

ABSTRACT: The article presents the results of the research and development work on  
UDT-4 ultrasonic flaw finders at the Ukrainian Scientific Research Tube Institute and  
compares their performance with that of the IDTs-3M ultrasonic flaw finder. The UDT-4  
pulsed ultrasonic flaw finder is designed for the quality control of thin-walled tubes  
through the excitation of normal waves in their walls. It consists of an electronic  
unit and a mechanical-acoustical part. The inspected tube is drawn through the device.  
If a flaw is present, a lamp glows on the panel of the electronic unit and at the same  
time the tube-drawing mechanism halts. The defective spot is pinpointed and subse-

Card 1/2

UDC: 620.179.16

L 28161-66

ACC NR: AP6010271

quently metallographically examined. The UDT-4 reliably reveals defects of the scale, film, scratch, crack and other types. Compared with the IDTs-3M the UDT-4 has a slower tube-drawing mechanism. On the other hand, the IDTs-3M is inferior in that it cannot be used to inspect bent or curved tubes and it involves vibration of the tube, which generates spurious signals. This comparison implies that a new flaw finder embodying the advantages of both devices can be developed. The UDT-4 in its present form may be used for high-speed flaw detection in shops fabricating a broad range of thin-walled precision tubes if the device is so modified as to use several ultrasonic pickups aligned along the tube axis. Thus, e.g. if 5-6 pickups with beam width of 10 mm each are used to inspect tubes rotating at the rate of 200 RPM, a productivity of approximately 600 m/hr or more than 4000 m per shift may be achieved. In mass production of tubes of a limited range of types, on the other hand, it is best to use ultrasonic flaw finders with a series of pickups mounted over the tube perimeter. Orig. art. has: 5 figures.

SUB CODE: 13, 11, 20/ SUBM DATE: 27Oct64/ ORIG REF: 001

Card 2/2 LC

I. 23836-66 EWT(d)/EWP(c)/EWP(v)/T/EWP(k)/EWP(h)/EWP(l)/ETC(m)-6 IJP(c)

ACC NR: AP6007706

(N)

SOURCE CODE: UR/0413/66/000/003/0084/0084

AUTHOR: Butanko, A. N.

ORG: none

32  
B

TITLE: Ultrasonic flaw detector, <sup>14</sup> Class 42, No. 178559 [announced by Institute of Physics and Technology, AN UkrSSR (Fiziko-tehnicheskii institut AN UkrSSR)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1966, 84

TOPIC TAGS: ultrasonic flaw detector, metal tube

ABSTRACT: This Author Certificate presents an ultrasonic flaw detector <sup>14</sup> for monitoring cylindrical products, e.g., tubes, by a differential method. The flaw detector contains a radiating and two receiving heads sensing the ultrasonic vibrations passing through two parts of the product under investigation. To increase the sensitivity of the flaw detector to surface defects by irradiating the product along chords in the plane of its cross section, the receiving heads of the flaw detector are placed symmetrically relative to the axis of the product at equal distances along either side from the radiator (see Fig. 1). The radiator has two slotted diaphragms for the separate direction of the ultrasonic beams to

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2

L 23836-66

ACC NR: AP6007706

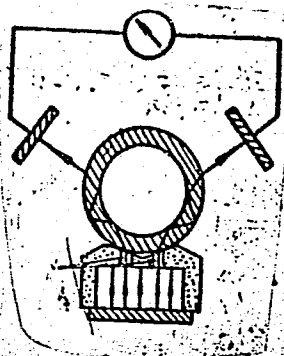


Fig. 1. Slotted diaphragms for separate direction of ultrasonic beams.

each of the receiving elements. Orig. art. has: 1 diagram.

SUB CODE: 13, 14/      SUBM DATE: 03Jun63

Card 2/2 *IV*

BUTCHENKO, F.P., agronom; CHERNOV, M.P., red.; NEMCHENKO, I.Yu., tekhn.  
red.; CHEREVATSKIY, S.A. [Cherevats'kyi, S.A.], tekhn.red.

[Green fallows open up possibilities for increasing the feed  
supply] Zainiati pary - velykyi rezerv kormiv. Kyiv, Derzh.  
vyd-vo sil's'kohospodars'koi lit-ry URSR, 1960. 94 p.

(Following)

(MIRA 13:12)



BUTCHENKO, F., P. agronom

Creators of monospermous sugar beets. Nauka i zhyttia 10 .  
no.6:16-19 Je '60. (MIRA 13:7)  
(Sugar beets)

<sup>P</sup>  
BUTCHENKO, F., agronom (Kiyev)

We follow Michurin's path. Nauka i zhizn' 27 no.6:40-42 Je  
'60. (MIRA 13:7)  
(Ukraine--Fruit culture)

BUTCHENKO, F.,<sup>P</sup>agronom

Invisible friends of farmers. Nauka i zhyttia 10 no.8:28-31  
Ag '60. (MIRA 13:8)  
(Bacteriology, Agricultural)

BUTCHENKO, F.P., agronom

Art of a plant breeder. Nauka i zhyttia 10 no. 11:33-35 N '60.

(MIRA 14:4)

(Ukraine--Wheat--Varieties)

KAVUN, Vasiliy Mikhaylovich. Primal uchastiye BUTCHENKO, F.P.  
CHERNOV, M.P., red.; NEMCHENKO, I.Yu., tekhn.red.

[Great stride of the seven-year plan of a collective farm]  
Shyrokyi krok seymrichky kolhospu. Kyiv, Derzh.vyd-vo  
sil's'kohospodars'koi lit-ry, 1961. 100 p.

(MIRA 15:2)

1. Predsedatelya kolkhoza imeni Stalina, Bershadskogo rayona,  
Vinnitskoy oblasti (for Kavun).  
(Ukraine--Collective farms)

BUTCHENKO, F.P., agronom

People subdue nature. Nauka i zhyttia 11 no.1:29-32 Ja '61.  
(Ukraine--Collective farms) (MIRA 14:3)

BUTCHENKO, F., agronom

Marlia Kharitonovna Savchenko's school. Nauka i zhyttia 11  
no.7:37-38 J1 '61. (MIRA 14:8)  
(Tokari---Dairying)

BUTCHENKO, F.P.; OLEFIRENKO, G.A. [Olefirenko, H.A.], red.;  
CHEREVATSKIY, S.A. [Cherevats'kyi, S.A.], tekhn. red.

[Increase the speed of tractor-driven machinery] Traktor-  
nym agregatam - pidvyshcheni shvydkosti. Kyiv, Derzhsil'-  
hospvydav URSR, 1962. 72 p. (MIRA 16:5)  
(Agricultural machinery)





BUTCHENKO, I.A., kandidat meditsinskikh nauk.

Effect of athletic training upon arterial blood pressure in adolescents. *Pediatrics* no.1:36-38 Ja-F '54. (MLRA 7:3)

1. Iz otdeleniya vrachebnogo kontrolya Leningradskogo nauchno-issledovatel'skogo instituta fizicheskoy kul'tury.  
(Physical education and training) (Blood pressure)

BUTCHENKO, L.A.

Electrocardiographic examination during physical exercise.  
Fiziol. zhur. 41 no.6:834-837 N-D '55. (MLRA 9:3)

1. Sektor vrachebnogo kontrolya Leningradskogo nauchno-issledovatel'  
skogo instituta fizicheskoy kul'tury.  
(ELECTROCARDIOGRAPHY,  
during exercise)  
(EXERCISE,  
ECG during performance)

USSR / Human and Animal Physiology (Normal and Pathological).  
Blood.

T-4

Abs Jour : Ref Zhur - Biologiya, No 13, 1958, No. 60304

Author : Butchenko, L. A.

Inst : Not given

Title : Functional Investigation of the Cardiovascular System

Orig Pub : Terapevt. arkhiv, 1956, 28, No 7, 26-29

Abstract : Electrodes were placed at the juncture of the 3rd right rib and the sternum, and in the region of the apex beat; a frequency filter of an electrocardiograph manufactured by Simmons was used; the amplification used was one-half of the usual; the EKG were recorded during physical exertion in 48 athletes and in 32 cardiovascular patients. In 12 cases, the EKG displacements were most acute, particularly when the load exceeded the functional capacity of the organism. Ventricular

Card 1/2

BUTCHENKO, Lev Alekseyevich, st. nauchnyy sotr., kand. med. nauk;  
TARTAKOVSKIY, M.B., red.; KHARASH, G.A., tekhn. red.

[Electrocardiography in sports medicine] Elektrokardiografiia  
v sportivnoi meditsine. Leningrad, Medgiz, 1963. 206 p.  
(MIRA 16:7)

(ELECTROCARDIOGRAPHY) (SPORTS MEDICINE)

BUTCHENKO, L.A. & VOL'NOV, N.I. (Leningrad)

"The Use of Statistical Methods in the Development of Norms for Evaluation of Electric Systole of the heart."

report presented at the 3rd Conference on the use of Mathematics in Biology, Leningrad University, 23-28 Jan 1961.

(Primeneniye matematicheskikh Metodov v Biologii. II, Leningrad, 1963, pp. 5-11

(Moscow Agricultural Academy imeni Timiryazev)

BUTCHENKO, L.A.

Electrocardiographic investigation during muscular activity  
and its diagnostic significance. [Trudy] GIDUV no.35:110-124:62.

(MIRA 16:6)

(ELECTROCARDIOGRAPHY)

(SPORTS MEDICINE)

(EXERCISE)

BUTCHENKO, L.A.

Changes in the electrocardiogram caused by overtraining and  
overstraining. [Trudy] GIDUV no.35:125-135'62.(MIRA 16:6)  
(ELECTROCARDIOGRAPHY) (SPORTS MEDICINE)



BUTCHENKO. L.A.

Diagnostic significance of electrocardiograms with changed  
T waves in lead III in case of the deviation of the electric  
axis of the heart to the right in athletes. [Trudy] GIDUV  
no.35:136- 147. '62. (MIRA 1686)  
(ELECTROCARDIOGRAPHY) (SPORTS MEDICINE)

BUTCHENKO, L.A.; VOL'NOV, N.I.

Statistical methods used in working out norms for the  
evaluation of the electric heart systole. Prim. mat. metod.  
v biol. no.2:196-201 '63. (MIRA 16:11)

\*

CIRSTEA, M.; SUHACIU, G.; BUTCULESCU, Ioana

Evaluation of the role of bradykinin in anaphylactic shock.  
Stud. cercet. de fiziol. 10 no.2:165-177 '65.

BUTCHULESCU, M.

New solutions for luminous signal lights at airports. P 220

REVISTA TRANSPORTURILOR. (Asociatia Stinitifica a Inginerilor si Technicienilor din Rominia si Ministerul Transporturilor Rutiere, Navale si Aeriene) Bucuresti, Romania. Vol. 6, no. 5, May 1959.

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

Uncl.

SECRET

The Ghost Hunt, Conate Inc. 26 Oct 1964

BUTE, C., coresp.; PAULIUC, M., coresp.

The Front of the People's Democracy. Constr Buc 17 no.788:3  
13 F '65.

NEGREANU, M.; BUTE, Constantin, coresp.

The enthusiasm of socialist competition. Constr Buc 17 no. 798:  
1 24 Ap '65.

BUTELAVA, M. M., A. A. KALINYAK and L. A. KAMIENKO

"The First Utilization of Electron-Optical Transducer in Photographing Mars in the Pulkovo Observatory."

Report presented at the Plenary Meeting of the Committee of Planetary Physics, Council of Astronomers, Khar'kov, 20-22 May 1958.  
(Vest. Ak Nauk SSSR, 1958, No. 8, p. 113-114)



ZAVOYSKIY, Ye.K.; BUPELOV, M.M.; PLAKHOV, A.G.; SMOLKIN, G.Ye.

Luminescent chamber. Atom.energ. no.4:34-37 '56. (MLRA 9:12)  
(Scintillation counters)

*BUTKEVICH, M.M.*

BUTKEVICH, V.G.; BUTELOV, M.M.

Investigating the secondary electron emission on the exit side.  
Radiotekh. i elektron. 3 no.3:355-370 Mr '58. (MIRA 11:4)  
(Electron emission)

BOGUSZ, Jozef; BOZEK, Piotr; BUTELSKI, Włodzimierz; SYCH, Marek

Results in the chemotherapy of malignant neoplasms using the apparatus for extracorporeal circulation. Pol. przegl. chir. 35 no.10/11:1150-1152 '63.

1. Z. I Kliniki Chirurgicznej AM w Krakowie Kierownik: prof. dr J. Bogusz.

(ISOLATION PERFUSION) (MECHLORETHAMINE)  
(SARCOMA) (LEG) (HEART, MECHANICAL)  
(MELANOMA) (NEOPLASM THERAPY)

BOGUSZ, Jozef; OSZACKI, Jan; BARCZYNSKI, Marian; BOZEK, Piotr;  
BUTELSKI, Wlodzimierz; SYCH, Marek

Attempted local nitrogranulogen therapy of leg sarcoma with the use  
of the apparatus for extracorporeal circulation. Polski tygod. lek.  
16 no.23:893-895 5 Je '61.

1. Z I Kliniki Chirurgicznej A.M. w Krakowie; kierownik: prof. dr  
J. Bogusz i z II Kliniki Chirurgicznej A. M. w Krakowie; kierownik:  
doc. dr J. Oszacki.

(LEG neoplasms) (SARCOMA ther) (PERFUSIONS)  
(NITROGEN MUSTARDS ther)

~~STEFAN~~ BUTELSKI, W. K.,  
BAK, Stefan; BOZEK, Piotr; BUTELSKI, Włodzimirz; KRUPINSKA, Maria; WASOWICZ,  
Stefan

Studies on Hoyer's arteriovenous anastomoses. Polski przegl. chir.  
29 no.4:339-348 Apr 57.

1. Z I Kliniki Chirurgicznej A. M. w Krakowie Kierownik: prof. dr  
J. Bogusz. Adres autorow: Krakow, ul. Kopernika 40, I Klin. Chir.  
(BLOOD VESSELS, anatomy and histology,  
Hoyer's arteriovenous anastomoses (Pol))

*Butelki*  
NIEC, Jan; SZNAJDER, Włodzimierz; BUTELSKI, Włodzimierz; WASOWICZ, Stefan

Remote results in partial gastrectomy in gastric and duodenal ulcer.  
Polski przegl. chir. 29 no.7:663-670 July 57.

1. Z I. Kliniki Chirurgicznej A. M. w Krakowie im. prof. M. Rutkowskiego  
Kierownik: prof. J. Bogusz.

(GASTRECTOMY, in various diseases,  
peptic ulcer, remote results in partial excis. (Pol))

BUTENAS, Yu. P.

Butenas, Yu. P.

"Investigation of the form of pine trunks grown in the forests of the Lithuanian SSR and the development of tables of volume." Min Higher Education USSR. Moscow Forestry Engineering Inst. Moscow, 1956 (Dissertation for the degree of Candidate in Agricultural Sciences)

Knizhnaya letopis

No. 15, 1956. Moscow

VASIL'YEV, P.V., prof., doktor ekon. nauk; PONOMAREV, A.D.; SOLDATOV, A.G.,  
kand. sel'khoz. nauk; MOTOVILOV, G.P., doktor sel'khoz. nauk;  
NEVZOROV, N.V., kand. ekon. nauk; LOSITSKIY, K.B., kand. sel'khoz.  
nauk; RODIONOV, A.Ya., kand. sel'khoz. nauk; CHARKINA, A.P., kand.  
sel'khoz. nauk; LUTSEVICH, A.A., kand. sel'khoz. nauk; KOZHEVNIKOV,  
M.G., dots.; ALEKSEYEV, P.V., kand. sel'khoz. nauk; ZORIN, A.V.,  
aspirant; BARANOV, N.I., kand. sel'khoz.nauk [deceased]; NAUMENKO,  
I.M., prof., doktor sel'khoz.nauk; IL'IN, A.I., kand.sel'khoz. nauk;  
MOISEYENKO, F.P., kand. biol. nauk; ZAKHAROV, V.K., prof., doktor sel'-  
khoz. nauk; GECHIS, Yu.P., starshiy nauchnyy sotr.; BJTENAS, Yu.P.,  
kand. sel'khoz. nauk; BUBLIS, K.A., aspirant; KALNIN'SH, A.Ya., kand.  
sel'khoz. nauk; ZVIYEDRIS, A.I., kand. sel'khoz. nauk; SUKACHEV, V.N.,  
akad. red.; ZHUKOV, A.B., prof., red.; PRAVDIN, L.F., prof., red.;  
MAKAROVA, L.V., red. izd-va; LOBANKOVA, R.Ye., tekhn. red.

[Problems of increasing forest productivity in four volumes] Pro-  
blemy povysheniia produktivnosti lesov v chetyrekh tomakh. Moskva,  
Goslesbumizdat. Vol.4.[Economic problems of increasing forest  
productivity and accelerating ripening and cutting ages] Ekonomicheskie  
voprosy povysheniia produktivnosti lesov, vozrasty spelosti i vozrasty  
rubok. 1961. 253 p. (MIRA 15:1)

1. Akademiya nauk SSSR. Institut lesa. 2. Nachal'nik Glavnoy inspeksii  
po lesnomu khozyaystvu i polezashchitnomu lesorazvedeniyu Ministerstva  
sel'skogo khozyaystva SSSR (for Ponomarev).

(Forests and forestry—Economic aspects)



A 113 BUTANIN, N. V.

General Dynamics,  
Kinematics, Friction  
23

938. N. V. Butenin, "'Degenerate' dynamic systems considered with the help of the 'jump-hypothesis'" (in Russian), *Appl. Math. Mech. (Prkl. Mat. Mekh.)*, Jan.-Feb. 1948, vol. 12, pp. 3-22.

The paper deals with the paradox of P. Painlevé [*C. R. Acad. Sci. Paris*, 1895, vol. 121, pp. 112-115; "Leçons sur le frottement," Hermann, Paris, 1895], according to which certain problems of dynamics with standard types of initial conditions and with a high coefficient of friction (according to Coulomb's law) do not admit any solution at all or admit more than one solution.

Among the proposals which were given to avoid this paradox [F. Klein, R. von Mises, G. Hamel, L. Prandtl, *Z. Math. Phys.*, 1909, vol. 5, pp. 58-197] the author chooses that one which admits infinite contact forces with a consequent infinite acceleration and instantaneous stoppage of the motion. Several examples are discussed in detail in the holograph plane. The word "degenerate" appearing in the title indicates systems with negligible inertia or elastic force.  
I. Opatowski, USA

Jan 118

SULEIMAN, N.V.

DUFRENIN, N. V.

157744

USSR/Mathematics - Servomechanics  
Auto-Oscillations  
Jan/Feb 50

"The Theory of 'Resonance' in a Mechanical Auto-Oscillatory System With Gyroscopic Members," N. V. Butenin, Leningrad, 12 pp

"Pril Matemat 1 Mekh" Vol XIV, No 1 p. 45-56

Behavior of mechanical auto-oscillatory system, close to linear conservative, with gyroscopic members acted upon by external sinusoidal forces (one of normal frequencies of linear conservative system is assumed to coincide with frequency of external force). Considers mechanical system with gyroscopic stabilizer

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USSR/Mathematics - Servomechanics  
(Contd)  
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as practical example. Shows that, when external sinusoidal force acts on mechanical auto-oscillatory system with two degrees of freedom, steady-state depends strongly on amplitude of this force. In the system considered, which is unstable when there is no servomoment, stable harmonic and biharmonic states are possible when one of normal frequencies of linear conservative system coincides with frequency of external force. For certain value of external force, stable harmonic and biharmonic regimes in the system are impossible. Submitted 24 Oct 49.

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APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000307720019-2"

BUTENIN, N.V.; KOVALEVSKIY, G.G.

Vibrations of a gyroscopic instrument dependent on dynamic  
unbalance. Vop. prikl. gir. no.2:25-~~17~~ '60. (MIRA 15:4)  
(Gyroscopic instruments--Vibrations)

13,2521

83463  
S/146/60/003/004/003/010  
B004/B056

AUTHOR: Butenin, N. V.

TITLE: The Action of the Forces of Dry Friction Upon the Motion of a Free Gyroscope Firmly Connected With the Earth

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye, 1960, Vol. 3, No. 4, pp. 29-36

TEXT: The author writes down the equations of motion for a gyroscope firmly connected with the earth:  $J_e \ddot{\vartheta} + H(\dot{\psi} + \Omega_{\text{earth}} \sin \varphi) = M_{ef}$ ;  $J_n \ddot{\psi} - H(\dot{\vartheta} - \Omega_{\text{earth}} \cos \varphi \psi) = M_{nf}$  (1) (e = east, n = north, J = reduced moment of inertia; H = kinetic moment of the gyroscope;  $\psi$  = deflection angle between inner frame and meridian plane;  $\vartheta$  = deflection angle of the inner frame;  $M_{ef}$ ,  $M_{nf}$  = moments of force of dry friction;  $\Omega_{\text{earth}}$  = angular velocity of the earth;  $\varphi$  = latitude. By the substitution of  $u = \dot{\vartheta} \sqrt{J_e}$ ;  $v = \dot{\psi} \sqrt{J_n}$ ;  $\lambda = H/\sqrt{J_e J_n}$ ;  $m_1 = L_e/\sqrt{J_e}$ ;  $m_2 = L_n/\sqrt{J_n}$  (2);  $n_1 = H \Omega_{\text{earth}} \sin \varphi / \sqrt{J_e}$ ;  $n_2 = H \Omega_{\text{earth}} \cos \varphi / J_n$  (3), where  $L_e$ ,  $L_n$  denote Card 1/3

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The Action of the Forces of Dry Friction Upon S/146/60/003/004/003/010  
the Motion of a Free Gyroscope Firmly Connected With the Earth

the maximum values of the moments of force of dry friction, the system of equations (4) is obtained:  $\ddot{u} + \lambda \dot{v} + n_1 = -m_1 \text{sign } \dot{u}$ ;  $\ddot{v} - \lambda \dot{u} + n_2 = -m_2 \text{sign } \dot{v}$ . By introduction of the variables  $x = \lambda \dot{u} - n_2 v$ ;  $y = \lambda_1 \dot{v}$ , where  $\lambda_1^2 = \lambda^2 + n_2$ , this acquires the form  $\dot{x} = -\lambda_1 y - \lambda n_1 - \lambda m_1 \text{sign}(x + n_2 v)$ ;  $\dot{y} = \lambda_1 x - \lambda_1 m_2 \text{sign } y$ ;  $\dot{v} = y/\lambda_1$  (6). In the rectangular coordinate system  $Oxyv$  the space is divided into four phase spaces by the planes  $y = 0$  and  $x + n_2 v = 0$ . For the phase space  $y > 0$ ,  $x + n_2 v > 0$ , the solutions for  $x$ ,  $y$ ,  $v$  are written down (7). The motion (phase trajectory) of an image point, the coordinates of which are given by (7), corresponds to the motion of the main axis of the gyroscope. By means of the solutions given in (7) for  $x$ ,  $y$ ,  $v$ , the following relation is obtained:

$(x - m_2)^2 + [y + (\lambda/\lambda_1)(n_1 + m_1)]^2 = A_1^2$  (8). ( $A_1$  is the integration constant). Equation (8) represents a family of concentric cylinders, the axis of which is parallel to the  $v$ -axis, and which is formed by the lines of intersection of the planes  $x = m_2$  and  $y = -\lambda(n_1 + m_1)/\lambda_1$ . Analogous

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The Action of the Forces of Dry Friction Upon S/146/60/003/004/003/010  
 the Motion of a Free Gyroscope Firmly B004/B056  
 Connected With the Earth

equations were obtained for the remaining phase spaces. On the assumptions that  $n_1 > m_1$ ,  $L_e < H\Omega_{\text{earth}} \sin \psi$ , the author discusses the transition of the image point from one phase space to another (Figs. 1, 2) and obtains equation (14) for the motion of the gyroscope, proceeding from the conditions  $t = 0$ ,  $\vartheta = \psi = 0$ ,  $\phi = \dot{\psi} = 0$ ,  $m_2 > (\lambda/\lambda_1)(n_1 - m_1)$ ,  $m_2 < (\lambda/\lambda_1)(n_1 - m_1)$ . For comparison, Fig. 3 shows a cross section through the space  $Oxyv$  parallel to the plane  $v = \text{const}$  with lacking friction. For the case in which  $n_1 < m_1$  (Fig. 4) the author proves that the gyroscope becomes immobile. Mention is made of V. A. Pavlov (Ref. 2). This paper was recommended by the kafedra teoreticheskoy mekhaniki (Chair of Theoretical Mechanics). There are 3 figures and 1 Soviet reference.

ASSOCIATION: Krasnoznamenskaya voyenno-vozdushnaya inzhenernaya akademiya im. A. F. Mozhayskogo ("Red Banner" Military Aviation Engineers' Academy imeni A. F. Mozhayskiy)

SUBMITTED: April 4, 1960

Card 3/3



86345  
S/146/60/003/005/005/017  
B019/B054

13.2520

AUTHOR: Butenin, N. V.

TITLE: Effect of Dry and Viscous Friction on the Axial Movement of a Free Gyroscope Mounted on a Fixed Base

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye, 1960, Vol. 3, No. 5, pp. 34 - 43

TEXT: In this investigation, the author proceeds from the equation of motion of a free gyroscope

$$\begin{aligned}
 I_v \ddot{\psi} + H \dot{\psi} &= M_v \\
 I_s \ddot{\psi} - H \dot{\psi} &= M_s
 \end{aligned}
 \tag{1}$$

where  $I_v$  is the moment of inertia of the gyroscope referred to the rotational axis of the inner frame,  $I_s$  is the moment of inertia referred to the rotational axis of the outer frame,  $H$  is the kinetic moment of the gyroscope,  $\psi$  is the angle of rotation of the outer, and  $\dot{\psi}$  that of the

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Effect of Dry and Viscous Friction on the Axial Movement of a Free Gyroscope Mounted on a Fixed Base

S/146/60/003/005/005/017  
B019/B054

inner frame,  $M_v$  is the moment of all forces referred to the axis of the inner frame and  $M_s$  the same referred to the axis of the outer frame. On the assumption that dry and viscous friction exists, the author gives the following relations:

$M_v = M - \alpha \dot{\psi} + M_{vt}$  and  $M_s = -\beta \dot{\psi} + M_{st}$ , where  $M_{vt} = -L_v \text{sign } \dot{\psi}$  and  $M_{st} = -L_s \text{sign } \dot{\psi}$ ,  $\alpha$  and  $\beta$  are friction coefficients,  $L_v$  and  $L_s$  are the maximum moments of dry friction on the axes of the inner and outer frames. Thus, the author obtains:

$$I_v \ddot{\psi} + H\dot{\psi} = -\alpha \dot{\psi} - L_v \text{sign } \dot{\psi} + M$$

$$I_s \ddot{\psi} - H\dot{\psi} = -\beta \dot{\psi} - L_s \text{sign } \dot{\psi} \quad ( 2 )$$

By introduction of new variables and with the use of an idea by Ye. L. Nikolai who had studied a similar problem in the velocity plane, the author obtains expressions for families of integral curves in the velo-

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Effect of Dry and Viscous Friction on the  
Axial Movement of a Free Gyroscope Mounted  
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city plane which describe the movement of the gyroscope. These integral curves are thoroughly studied and discussed with the aid of graphs. D.M. Klimov (Ref.3) is mentioned. The publication of this article was recommended by the Kafedra teoreticheskoy mekhaniki (Chair of Theoretical Mechanics). There are 3 figures and 5 Soviet references.

ASSOCIATION: Leningradskaya Krasnoznamennaya voyenno-vozdushnaya akademiya imeni A.F. Mozhayskogo (Leningrad "Red Banner" Air Force Academy imeni A.F. Mozhayskiy)

SUBMITTED: April 6, 1960

X

Card 3/3

PAVLOV, Vsevolod Aleksandrovich; RIVKIN, S.S., doktor tekhn. nauk, retsenzent; BUTENIN, N.V., doktor tekhn. nauk, retsenzent; PONYRKO, S.A., nauchnyy red.; AZAROVA, I.G., red.; TSAL, R.K., tekhn. red.

[The gyroscopic effect, its manifestations and applications]  
Giroskopicheskiy effekt, ego proiavleniia i ispol'zovanie.  
Leningrad, Gos. soiuznoe izd-vo sudostroitel. promyshl., 1961.  
163 p. (MIRA 15:2)

(Gyroscope)

PHASE I BOOK EXPLOITATION

SOV/6063

Butenin, Nikolay Vasil'yevich

Elementy teorii nelineynykh kolebaniy (Fundamentals of the Theory of Non-linear Oscillations) Leningrad, Sudpromgiz, 1962. 193 p. 5000 copies printed.

Scientific Ed.: S. A. Ponyrko; Reviewers: D. R. Merkin, Doctor of Physics and Mathematics, and V. A. Troitskiy, Candidate of Physics and Mathematics; Ed. I. A. Shaykevich; Tech. Ed.: R. K. Tsal.

PURPOSE: This book is intended for scientific and technical personnel and for students in advanced instrumentation courses at schools of higher technical education.

COVERAGE: The book is an attempt to present the fundamentals of the theory of nonlinear dynamic oscillations as well as methods for the solution of some specific problems. Autonomous and nonautonomous systems with one and

Card 1/4

Fundamentals of the Theory of Nonlinear Oscillations

SOV/6063

two degrees of freedom are reviewed, with special emphasis on natural oscillation systems. It is stressed that the book should be considered only as an introduction to a more detailed study of the theory. There are 61 references: 54 Soviet (including 2 translations), 3 English, 3 French, and 1 German.

TABLE OF CONTENTS:

Introduction	3
Ch. 1. Methods of Investigating Autonomous Nonlinear Systems With One Degree of Freedom	
1. Phase plane. Phase-plane linear systems	5
2. Singular points in general-form linear systems	5
3. Lyapunov theorems on the stability of the equilibrium state	16
4. Methods of plotting phase-plane integral curves	25
5. Method of adjustment. Concept of natural oscillations	27
6. Method of point transformations	58
	64

Card 2/2

BRAZHICHENKO, Nikolay Arsen'yevich; KAN, Veniamin Lipmanovich;  
MINTSBERG, Beniamin L'vovich; MOROZOV, Valentin Ivanovich;  
BUTENIN, N.V., doktor tekhn. nauk, prof., retsenzent;  
NIKITIN, N.N., kand. fiz.-mat. nauk, retsenzent; ZAKHAREVICH,  
A.F., nauchnyy red.; SMIRNOV, Yu.I., red.; TSAL, R.K., tekhn.  
red.

[Problems on theoretical mechanics] Sbornik zadach po teoreticheskoj mekhanike. Leningrad, Sudpromgiz, 1962. 559 p.  
(MIRA 16:1)  
(Mechanics, Analytic--Problems, exercises, etc.)

BUTENIN, Nikolay Vasil'yevich; OVSYANNIKOVA, Z.G., red.; VORONINA,  
R.K., tekhn. red.

[Theory of vibrations] Teoriia kolebanii. Moskva, Vysshiaia  
shkola, 1963. 183 p. (MIRA 16:6)  
(Vibration)



KRYLOV, Nikolay Alekseyevich, zasl. izobretatel' RSFSR, doktor tekhn. nauk; GASTEY, V.A., zasl. deyatel' nauki i tekhniki RSFSR, doktor tekhn. nauk prof., retsenzent; BUTENIN, N.V., doktor fiz.-matem. nauk, prof., nauchn. red.; VORONETSKAYA, L.V., red.izd-va i tekhn. red.

[Electron-acoustical and radio measurement methods for testing materials and structures] Elektronno-akusticheskie i radiometricheskie metody ispytaniia materialov i konstruktsii. Leningrad, Gosstroizdat, 1963. 239 p.  
(MIRA 17:1)

BUTENIN, N.V.; LUNTS, Ya.L.

Motion of a free gyroscope in case of a uniform rotation  
of the base. Izv. vys. ucheb. zav.; prib. 6 no.5:75-83 '63.

(MIRA 16:11)

1. Leningradskaya voyenno-inzhenernaya krasnoznamennaya  
akademiya imeni A.F. Mozhayskogo. Rekomendovana kafedroy  
teoreticheskoy mekhaniki.

BUTENIN, N.V.; LUNTS, Ya.L. (Leningrad)

"Nonlinear problems of the free gyroscope theory"

report presented at the 2nd All-Union Congress on Theoretical and Applied  
Mechanics, Moscow, 29 January - 5 February 1964

SUDAKOV, Vasil'y Vasil'yevich; BUTENIN, N.V., doktor fiz.-mat. nauk,  
nauchn. red.

[Practical application of electronics in the construction  
industry] Prakticheskoe primeneniye elektroniki v stroi-  
tel'stve. Leningrad, Stroiizdat Leningr. otd-nie, 1964.  
285 p. (MIRA 17:9)

WRITE BELOW THIS LINE

ACCESSION NR: AP4043563

S/0146/64/007/004/0096/0102

AUTHOR: Butenin, N. V.; Lestev, A. I.

TITLE: The theory of the semigyrocompass

SOURCE: IVUZ. Priborostroyeniye, v. 7, no. 4, 1964, 96-102

TOPIC TAGS: gyroscope, free gyroscope, gyrocompass, navigation instrument, precession equation, gyroscope precession, Cardan mounted gyrocompass

ABSTRACT: This paper is a continuation of a study of the precession equations of the free gyroscope and the semigyrocompass carried out in 1952 by A. M. Letov. The authors have investigated theoretically and in great detail the motion of the semigyrocompass, as well as that of the dry-friction azimuthal Anschuetz gyroscope with spinning disk mounted in gimbal rings. The semigyroscope was rigidly fixed with respect to the ground, and the axis of the outer gimbal was positioned vertically. Orig. art. has: 4 figures and 12 formulas.

ASSOCIATION: Leningradskiy institut aviatsionnogo priborostroyeniya (Leningrad Institute of Aircraft Instrument Design)

Card 1 / 2

ACCESSION NR: AP4043563

SUBMITTED: 19Nov63

ATD PRESS: 3089

ENCL: 00

SUB CODE: NG

NO REF SOV: 005

OTHER: 000

Card 2/2

ACCESSION NR: AP4037469

S/0146/64/007/002/0099/0106

AUTHOR: Butenin, N. V.

TITLE: Astatic gyroscope with dry friction in the two-gimbal axes fixed on the Earth

SOURCE: IVUZ. Priborostroyeniye, v. 7, no. 2, 1964, 99-106

TOPIC TAGS: gyroscope, gyro, 2 gimbal gyro, gyro dry friction, Earth fixed gyro

ABSTRACT: A theoretical investigation of the effect of dry friction on the behavior of an Earth-fixed astatic gyro operating at various latitudes and with various relations between friction moments is reported; a qualitative analysis on the basis of the precession theory is offered. Equations describing the gyro motion are set up, with the angles of deviation of both gimbals described by Lagrange's equations of the second kind. An investigation of the equations shows

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ACCESSION NR: AP4037469

that the dry friction causes dead bands where both deviations are zero. The formulas for the dead bands and the integral-curve equation permit evaluating the apparent motion of the gyro axis on the basis of the latitude and dry-friction moments. Orig. art. has: 3 figures and 15 formulas.

ASSOCIATION: Leningradskaya Krasnoznamennaya voyenno-vozdushnaya inzhenernaya akademiya im. A. F. Mozhayskogo (Leningrad Red-Banner Air-Force Engineering Academy) /

SUBMITTED: 26Oct63 / DATE ACQ: 05Jun64 ENCL: 00

SUB CODE: AC NO REF SOV: 011 OTHER: 000

Card 2/2



ACCESSION NR: AP4037469

that the dry friction causes dead bands where both deviations are zero. The formulas for the dead bands and the integral-curve equation permit evaluating the apparent motion of the gyro axis on the basis of the latitude and dry-friction moments. Orig. art. has: 3 figures and 15 formulas.

ASSOCIATION: Leningradskaya Krasnoznamennaya voyenno-vozdushnaya inzhenernaya akademiya im. A. F. Mozhayskogo (Leningrad Red-Banner Air-Force Engineering Academy) /

SUBMITTED: 26Oct63 / DATE ACQ: 05Jun64 ENCL: 00

SUB CODE: AC NO REF SOV: 011 OTHER: 000

Card 2/2

BUTENIN, N.V.; DOBRINSKAYA, R.V., red.

[Motion of a material point in the earth's central force field; dynamics of a body of variable mass; lectures]  
Dvizhenie material'noi tochki v tsentral'nom silovom pole Zemli; dinamika tela peremennoi massy; lektsii. Leningrad, Leningr. in-t aviatsionnogo priborostroenia, 1964. 45 p. (MIRA 17:11)

L 18543-66 EWT(d)/EWT(1)/EWT(m)/EEG(k)-2/T JD/DJ/BC  
ACC NR: AP6002178 (N) SOURCE CODE: UR/0146/65/008/006/0098/0104

AUTHOR: Butenin, N. V.; Lestev, A. M.

39  
B

ORG: Leningrad Institute of Aviation Instruments (Leningradskiy institut aviatsionnogo priborostroyeniya)

TITLE: Motion of dry-friction integrating gyroscope<sup>9</sup>

SOURCE: IVUZ. Priborostroyeniye, v. 8, no. 6, 1965, 98-104

TOPIC TAGS: gyroscope, integrating gyroscope

ABSTRACT: The motion of the axis of the figure of integrating gyroscope having two degrees of freedom and dry friction in its gimbal bearings is theoretically considered; the gimbal is mounted on a base that vibrates about the measuring axis. Differential equations describing the motion of the gyroscope figure axis are set up and solved, determining types and conditions of the motion, as well as the errors of the instrument. It is found that the dry-friction forces introduce certain peculiarities into the gyroscope motion. The base angular velocity may take on a critical value; if the angular velocity  $\omega(t)$  is lower than critical, for all  $t$ , the motion comes to

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UDC: 531.383

L 18543-66

ACC NR: AP6002178

rest. With certain relations between the gyroscope parameters and vibration parameters, the dry friction brings about motions with prolonged rest periods. Asymmetry in the dry-friction forces causes systematic deviation of the figure axis from its initial position; in this case, the dry-friction forces cause maximum errors. Orig. art. has: 2 figures and 22 formulas.

SUB CODE: 17 / SUBM DATE: 08Mar65 / ORIG REF: 004 / OTH REF: 001

Card 2/2 - mgs

BUTENKO, A., inzhener-polkovnik

Toward new flights into space. Tekh. i vooruzh. no.4:9-11 Ap '64.  
(MIRA 17:9)

BUTENKO, A.

Make efficient use of permanent machine operators in machine-  
tractor stations. Sots.trud no.2:70-76 P '57. (MLRA 10:5)  
(Machine-tractor stations)

DENISOV, A.A.; BUTENKO, A.A.

Vacuum forming of thermoplastic parts. Mashinostroitel' no.12:  
26-27 D '64. (MIRA 18:2)

BUTENKO, A.F.

[Central and local economic councils and planning agencies; 1917-1932; compilation of documents] Sovety narodnogo khoziaistva i planovye organy v tsentre i na mestakh, 1917-1932, sbornik dokumentov. Moskva, Gospolitizdat, 1957, 231 p.

(MLRA 10:6)

1. Russia (1923- USSR) Tsentral'nyy gosudarstvennyy arkhiv Oktyabr'skoy revolutsii i sotsialisticheskogo stroitel'stva.  
(Russia--Economic policy)



YEGOROV, K.D., kand.ekon.nauk; TROSHINA, A.P.; KOVALEV, P.P.; NOVIKOVA, A.A.; LAGUTINA, M.V.; VOLNINA, N.A.; SHESTAKOVA, R.V.; AKIMCHENKO, O.Ye.; KULEBAKIN, V.S., akademik, red.; VEYTS, V.I., red.; BUTENKO, A.F., kand.filosof.nauk, red.; RYBINSKIY, M.I., red.; CHASHNIKOVA, M.V., red.; NIZHNYAYA, S., red.; VOSKRESENSKAYA, T., red.; CHEKHUTOVA, V., red.; RKLITSKAYA, A.D., red.; CHEPRELEVA, O., tekhn.red.

[Works of the State Commission for the Electrification of Russia; documents and materials] Trudy Gosudarstvennoi komissii po elektrifikatsii Rossii GOKLRO; dokumenty i materialy. Red.komissia: V.S.Kulebakin and others. Moskva, Izd-vo sotsial'no-ekon.lit-ry, 1960. 306 p. (MIRA 14:2)

1. Russia (1917- R.S.F.S.R.) Gosudarstvennaya komissiya po elektrifikatsii Rossii. 2. Chlen-korrespondent AN SSSR (for Veyts). (Electrification)

1 62748-65 INTS 4:17a Bar-104

W. S. T. ...  
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**TOPIC TAGS:** semiautomatic quality control, weld seam defect, pipe seam defectoscopy, ultrasound defectoscopy, rust resistant pipe, thin walled pipe

**ABSTRACT:** In view of the failure of visual methods to inspect weld seam defects, the author has developed a method for the detection of weld seam defects in thin walled pipes. The method is based on the use of a semiautomatic quality control system. The system consists of a camera, a light source, and a computer. The camera is used to inspect the weld seam and the computer is used to analyze the resulting image. The method is applicable to the detection of weld seam defects in thin walled pipes of various materials and thicknesses. The method is also applicable to the detection of weld seam defects in pipes of various diameters and lengths. The method is simple to use and requires no special equipment or training. The method is also suitable for use in the field.

1. TITLE

APPROVED FOR RELEASE: 06/09/2000

The document contains a comprehensive description of the three-dimensional mechanical section of the instrument: 1) the ultrasonic transducer; the construction of contacts relative to the pipe and the pipe diam. (incl. art. has 6 figures).

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy tsentr po fizicheskoy teorii i matematicheskoy fizike, Resear. Pipe Institute

SUBMITTED: 1984-08-15

NO REF. COPY: 000

OTHER: 001

APPROVED FOR RELEASE: 06/09/2000

Card 2/2

BUTENKO, A.K.; STEPANOV, S.I.

Permanent self-contained units for current measurements in shallow  
regions of the sea. Trudy ANII 210:9-12 '61. (MIRA 14:11)  
(Oceanographic instruments)

SOV/119-59-6-6/18

Testing of Wire With the Ultrasonic Detector of Defects

with a flawless standard sample. The method permits the testing of wire down to a diameter of 1 mm. The construction is graphically depicted in figure 3. The wire runs through with a velocity of from 50 to 100 m/h. Experiments showed that pressure points with a diameter of 0.8 mm, or scratches with a width of 0.1 mm as well as points of irregular hardness are determinable by the procedure under review. There are 3 figures.

Card 2/2

L 12769-66 EWT(m)/EWP(v)/T/EWP(t)/EWP(k)/EWP(b)/EWA(h)/EWA(c) JD/rM/HW

ACC NR: AP6002533

(N)

SOURCE CODE: UR/0286/65/000/023/0037/0037

INVENTOR: Butenko, A. N.; Gordiyenko, Ya. I.

33

ORG: none

B 16

TITLE: Mandrel for resistance butt welding of tubes. Class 21, No. 176649

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 23, 1965, 37

TOPIC TAGS: welding, resistance welding, tube welding, butt welding

ABSTRACT: This Author Certificate introduces the use of wire made from heat-resistant material, such as nichrome, as a mandrel in resistance butt welding of small tubes of any shape, including multichannel tubes. [ND]

SUB CODE: 13, 11/ SUBM DATE: 03Apr61/ ATD PREs: 4184

Card 1/1 HW

UDC: 621.791.762.039

BUTENKO, A.N.; GUMENUYK, V.S.

Acoustical device for ultrasonic testing of wires. Zav. lab.  
31 no.11:1407-1408 '65. (MIRA 19:1)

1. Fiziko-tekhnicheskij institut AN UkrSSR.

BUTENKO, ANATOLIY PAVLOVICH

Voyna I Revolyutsiya. Moskva, Gospolitizdat,  
1961.

47 P.

Bibliographical Footnotes.



CHALYY, G. V.; BUTENKO, B. M.

Automation of tomato processing lines. Izv. AN Mold. SSR no.9:  
45-67 '62. (MIRA 16:1)

(Tomato products)  
(Canning and preserving--Equipment and supplies)  
(Automation)

DIKIY, G.F.; BUTENKO, B.M.; IVASHKEVICH, Yu.K.; IVASHCHENKO,  
B.P.; LOMAKIN, V.F.

[Automation of production processes in the wine and  
brandy making factory in Tiraspol] Avtomatizatsiia pro-  
izvodstvennykh protsessov na Tiraspol'skom vinno-  
kon'iachnom zavode. Moskva, TSentr. in-t nauchno-  
tekh. informatsii pishchevoi promyshl., 1964. 32 p.  
(MIRA 17:11)

LOMAKIN, V.F.; BUTENKO, B.M.

Long distance transmission of information on production indices by  
means of light signals. Khar. prom. no.2:19-20 Ap-Je '65. (MIRA 18:5)

MUKHIN, Petr Vasil'yevich; BUTENKO, Dmitriy Borisovich;  
SVYATNENKO, Vasiliy Filippovich; YARMAK, Viktor Ivanovich;  
GOLOSHCHAPOV, I.M., inzh.-polkovnik, red.; SOKOLOVA, G.F.,  
tekh. red.

[K-750V motorcycle; its construction, maintenance and operation] Mototsikl K-750V; ustroistvo, ukhod i ekspluatatsiia.  
Moskva, Voenizdat, 1963. 225 p. (MIRA 17:1)

(Motorcycles)

BUTENKO, F.F.

Hydraulic trap. Kons. i ov. prom. 14 no.8:9 Ag '59.  
(MIRA 12:9)

1. Krapivenskiy ovoshchesushil'nyy zavod.  
(Potatoes)

BUTENKO, F.F.

Device for magnetic water treatment. Kons. i ov. prom.  
16 no.11:12-13 N '61. (MIRA 14:11)

I. Krapivenskiy ovoshchesushil'nyy zavod.  
(Feed-water purification)

BUTENKO, F.F.

Improved processing line for the preparation of potatoes for  
drying. Kons.i ov.prom. 17 no.6:44 Je '62. (MIRA 15:5)

1. Glavnyy inzhener Krapivenskogo ovoshchesushil'nogo zavoda.  
(Potatoes--Drying)

BUTENKO, F.F.

Consultation. Kons.i ov.prom. 17 no.12:39 D '62.

(MIRA 15:12)

1. Glavnyy inzh. Yefremovskogo (Tul'skaya obl.) konservnogo zavoda.

(Cookery (Cranberries))



BUTENKO, F.I., mashinist teplovoza

Method for testing certain electric relays of the TE3 diesel locomotive. Elek.1 tepl.tiaga 6 no.12:32 D '62.

(MIRA 16:2)

1. Depo Bryansk.

(Diesel locomotives—Testing) (Electric relays—Testing)

ZAYKO, N.H., prof.; BU'YENKO, F.M.

Review of "Current problems of morphology, physiology and  
pathology." Pat. fiziol. i eksp. terap. 8 no.5:91-92  
S-0 '64.

(MIRA 18:12)

*BUTENKO, G.A.*  
SHABUNIO, I.F.; SHIL'KRUT, D.I.; BUTENKO, G.A.

Natural tests used in the furniture industry. Der. prom. 7 no.1:12  
Ja '58. (MIRA 11:1)

1. L'vovskiy lesotekhnicheskii institut.  
(Chairs--Testing)

1ST AND 2ND DODGES      PROCESSES AND PROPERTIES INDEX      3RD AND 4TH DODGES

Common ELEMENTS

BC

B-I-P

Adsorptive properties of the residue remaining after treating spent kexin with hydrochloric acid. A. M. Kuzko and G. A. Burmago (Ukrain. Chem. J., 1935, 10, 473-476).—The residues, containing 94-99% of SiO<sub>2</sub>, are better adsorbents of C<sub>2</sub>H<sub>4</sub> vapor than are the original kexin. R. T.

ASS-SLA METALLURGICAL LITERATURE CLASSIFICATION

FROM SYMBLIVIA      FROM SOMIRV

GROUP #4      SECTION 412 ONLY USE      DIVISION      SECTION 412 ONLY

0 1 2 3 4 5 6 7 8 9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

0 1 2 3 4 5 6 7 8 9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

FROM SYMBLIVIA      FROM SOMIRV

Microfilm frame containing a document snippet. The frame includes headers for '1ST AND 2ND LETTER', '2ND LETTER', '3RD AND 4TH GROUPS', and 'MATERIALS INDEX'. The central text reads:

Zan'ko, M., and Butenko, G.A. NEW METHOD OF SYSTEMATIC ANALYSIS OF KAOLIN CLAYS. *Zapodskaya Lab.*, 4, 1188-04 (1935).—By heating 0.5 gm. kaolin at 700° to 750° for 1.5 to 2 hr. and treating the melt with 100 to 120 cc. of 2 N HCl on a water bath for 5 to 6 hr., the insoluble residue is reduced to a minimum of 1.46%. The filtrate is analyzed by the "oxin" method as usual. The residue, containing SiO<sub>2</sub>, quartz, feldspar, mica and TiO<sub>2</sub>, is ignited, weighed and evaporated with HF and H<sub>2</sub>SO<sub>4</sub> and analyzed as usual.

BUTENKO, G. A.

Determination of iron, titanium and aluminum in a mixture with the aid of 8-hydroxyquinoline. A. M. Zan'ko and G. A. Butenko. *Zavodskaya Lab.* 5, 415-18 (1936).—The improvement of the method of Trainberg (C. A. 29, 70<sup>6</sup>) and its modification by Zhukovskaya and Balyus (C. A. 29, 2870<sup>6</sup>) is based chiefly on the use of accurate AcOH acidity and a definite balance between tartaric acid and NH<sub>4</sub> oxalate of solns., making a complete sepn. of Ti and Al with 8-hydroxy-quinoline-AcOH (I) possible. The method is shown in a prepd. soln. of Fe<sub>2</sub>O<sub>3</sub>, Al<sub>2</sub>O<sub>3</sub> and TiO<sub>2</sub>. To 100 cc. of the soln. add 3 g. NH<sub>4</sub>OAc and 1 g. tartaric acid, neutralize with NH<sub>4</sub>OH and introduce 20 cc. of 80% AcOH and a slight excess of 2% I. Bring the soln. nearly to boiling, digest on a water bath, filter off Fe oxine through a glass filter No. 4, wash the ppt. with 1% AcOH and water, dry it at 110° and weigh. Evap. the filtrate to 150 cc., add 4 g. NH<sub>4</sub> oxalate, neutralize the soln. with NH<sub>4</sub>OH to litmus, add 3-5 drops of AcOH, heat to 60°, ppt. with I, boil 10 min., filter off Ti oxine, wash with hot water, dry at 110° and weigh. Dil. the filtrate to 500 cc., withdraw 100 cc., add an excess of NH<sub>4</sub>OH and I, and proceed with the sepn. of Al oxine as above. The oxines can be dissolved and titrated by the Berg method, or preferably by the potentiometric method of Atanasiu and Velculescu (C. A. 28, 433<sup>6</sup>). C. B.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES HERE

17-1

B/L

Determination of small amounts of iron by means of quinaldinate acid. G. A. BURENKO and B. A. VERLINA (J. Appl. Chem. Russ., 1937, 10, 1652-1673).—1 g. of substance, containing  $\pm 5\%$  Al, is freed from  $SiO_2$ , the residue is dissolved, and made up to a vol. of 250–500 ml. 25–50 ml. of the solution are diluted to 70 ml., made neutral with aq.  $NH_3$  (metanil-yellow), 3 ml. of 5%  $NH_4OH$ , HCl, 6 ml. of 1–13% Na quinaldate, 2 ml. of 10% KCN, and  $H_2O$  to 100 ml. are added, and the coloration is compared with that given by a standard solution. Should a ppt. of  $Al(OH)_3$  form after addition of KCN, a further 2 ml. of 10% KCN are added, and the solution is filtered. Should Ti hydroxide separate after addition of aq.  $NH_3$ , 4 ml. of  $N-HCl$  are added, and the amount of KCN is raised to 6 ml. In presence of  $PO_4^{3-}$  3–5 ml. of  $N-HCl$  and 4 ml. of KCN are taken.

R. T.

ASM-A.A. METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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1ST AND 2ND EDITIONS      1RD AND 2TH EDITIONS

PROCESSED AND PROPERTIES INDEX

B-1-9

bc

**Determination of copper in cast iron and steel by means of quinaldic acid.** A. M. ZANKO and G. A. BUXENKO (Zavod. Lab., 1937, 6, 543-548).— A solution of 1 g. of Fe or steel in 20 ml. of 1:1 HCl is boiled with 2-3 ml. of HNO<sub>3</sub>, the solution evaporated to dryness, the residue extracted with H<sub>2</sub>O, the extract filtered, and SiO<sub>2</sub> removed from the residue in the usual way. 6 g. of tartaric acid are added to the filtrate + the solution of the residue from treatment of the SiO<sub>2</sub> ppt. with HF-H<sub>2</sub>SO<sub>4</sub> and aq. NH<sub>3</sub> is added to neutrality (nitrazine-yellow indicator), followed by 10 ml. of 4N-H<sub>2</sub>SO<sub>4</sub>, and 2% Na quinaldate is added to the boiling solution. The ppt. is collected after 18 hr., washed with hot H<sub>2</sub>O, and dried at 125° (1 g. of ppt. = 0.1494 g. of Cu). R. T.

COMMON ELEMENTS      COMMON VALVE METALS

MATERIALS INDEX      METALS INDEX

ASM-BLA METALLURGICAL LITERATURE CLASSIFICATION

FROM SYNDICATE      FROM BUREAU      FROM BUREAU

FROM SYNDICATE										FROM BUREAU										FROM BUREAU																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40



9

**Determination of copper in cast iron and in steel with tartaric acid.** A. M. Zan'ko and G. O. Hutenko. *Izv. Vses. Inst. fizik. Khim., Akad. Wiss. Ukr. S. S. R.* 6, 99-107 (1938); *Khim. Referat. Zhur.* 2, No. 3, 73-4 (1939).— The method is based on the relative instability of the tartaric complex of Cu at a definite acidity of the soln. and on the fact that the quinolate of Cu is less sol. than are the corresponding compds. of the other elements in steel and cast iron. For the analysis dissolve 1 g. of the metal in 15-20 cc. of 6 N HCl, acidify with 2-3 cc. of concd. HNO<sub>3</sub>, boil for some time, evaporate the soln. to dryness in a porcelain dish and separate the SiO<sub>2</sub> by the usual method. Filter off the residue, roast it, treat it in a Pt crucible with HF + H<sub>2</sub>SO<sub>4</sub> (until white fumes appear), extract with water and add the soln. to the original filtrate. Add to the mixt. 6 g. of tartaric acid, neutralize to nitrazine yellow paper with NH<sub>4</sub>OH, add 15 cc. of 4 N H<sub>2</sub>SO<sub>4</sub>, heat to boiling and ppt. (by stirring) with an excess of a 2% soln. of Na quinolate. Let the mixt. stand (total vol. 100-120 cc.) for 18 hrs., filter through a glass crucible No. 3 or 4, wash the residue with hot water, dry at 125° and weigh. One  $\mu$  of ppt. = 0.1494 g. of Cu. If the amt. of Cu in the sample is less than 0.05-0.06% take twice as much sample and twice the quantities of tartaric acid and of 4 N H<sub>2</sub>SO<sub>4</sub>. The Cu values obtained are accurate within 0.02% of the wt. of sample. W. R. Henn

METALLURGICAL LITERATURE CLASSIFICATION

A 13.11.4

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

CA

15

Photochemical determination of phosphoric acid in fertilizers. G. A. Butenko and N. V. Kirsh. *Zavodskaya Lab.* 9, 535-8(1940).—Dissolve 1 g. of the fertilizer and dil. to 500 ml. Dil. 2 ml. of the soln. to 50 ml., add 5 ml. of monomethyl-*p*-aminophenolsulfate, 10 ml. of molybdate, let stand 20 min., add 20 ml. of NaOAc, dil. to 100 ml. and exam. in a photocolormeter. The  $P_2O_5$  is calcd. from a calibration curve showing the coeffs. of absorption. B. Z. Kamich

ASB-513 METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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BUTENKO, G. A.

PA 163T51

USSR/Metals - Steel Alloys  
Chemistry - Analysis

Jun 50

"Amperometric Determination of Manganese, Chromium, and Vanadium in Alloy Steels and Cast Irons," G. A. Butenko, G. Ye. Bekleshova, Dnepropetrovsk Chemicotech Inst

"Zavod Lab" Vol XVI, No 6, pp 650-658

Describes rapid, simple, sufficiently precise method which may be used for simultaneous amperometric determination of manganese, chromium, and vanadium in alloy steels and cast irons. Amperometric titration results in more precise

163T51

USSR/Metals - Steel Alloys  
(Contd)

Jun 50

determination as compared to ordinary titration, where change in indicator color is camouflaged by solution coloration from accompanying elements.

163T51

CA

Amperometric titration of zinc ferrocyanide using a rotating platinum electrode as indicator. G. A. Bultraku and B. S. Rynakaya (Inst. Chem. Technol., Dnepropetrovsk, U.S.S.R.). *Zhur. Anal. Khim.* 5, 145-50(1950). The electrode rotating at 1000 r.p.m. consists of 8-8 mm. Pt wire of 0.5 mm. diam. soldered into a 8 mm. glass tube having a bent tip. To det. Zn, place a measured vol. of  $ZnSO_4$  soln. into the titration beaker, add a calcd. vol. of inert electrolyte, and dil. to 100 ml. with  $H_2O$ . Insert the Pt electrode and the agar bridge, start the motor to rotate the electrode, and impress a p.d. of 0.7 v. Start adding standard  $K_3Fe(CN)_6$  soln., and watch the galvanometer readings. Upon reaching the end point an excess of titrant increases the current sharply. As inert electrolytes  $H_2SO_4$ ,  $HCl$ ,  $NaCl$ ,  $KCl$ ,  $Na_2SO_4$ , and  $K_2SO_4$  were tested. The best results were obtained with acids or without auxiliary electrolytes.  $Na_2SO_4$  and  $K_2SO_4$  gave too high results. Without auxiliary electrolyte the equil. was delayed; in the presence of acid, the equil. was reached rapidly after each addn. of titrant. The concn. of acid used can be 0.5-1 N. The concn. of Zn should be 0.1-0.05 N. High concns. were difficult to titrate because of the heavy ppt. M. Hosh