

10

Transactions of the Tashkent (Cont.) SOV/5410

Leshchinskiy, N. I., G. N. Lokhanin, and A. S. Shtan' [Glavatom - Main Administration for the Utilization of Atomic Energy]. Organization of Laboratories for Experiments Using Radioactive Substances 132

Bibergal', A. V., N. I. Leshchinskiy, M. M. Korotkov, and C. G. Arakelov. Development of a Transportable Gamma-Plant for Seed Irradiation Before Sowing 148

Artmeladze, I. D., A. A. Bibergal', and T. V. Tsatskhelidze [Institut fiziki AN Gruz SSR - Institute of Physics AS GruzSSR]. Experimental Semi-Industrial Gamma-Plant for Radiation Processing of Agricultural Products in Georgia 155

Bibergal', A. V., N. I. Leshchinskiy, U. Ya. Margulis, and V. G. Khrushchev. [Ministerstvo zdoravookhraneniya - Ministry of Health USSR]. Some Problems of Design and Construction of High-Capacity Gamma-Plants 164

Card 9/20

BINERGA', A.V.; TSETSKHLADZE, T.V.; ARTMELADZE, I.D.

The experimental semi-industrial gamma-ray source (KUP-20,000,
Trudy Inst.fis.AN Gruz.SSR 8:63-74 '62. (MIRA 16:2)
(Gamma rays--Industrial applications)

ARTEMADZE, N.K.

O formulakh mekhanicheskikh kubatur, Tbilisi, Trudy matem. in-ta, Gr. fil.
AN, 8 (1940), 147-158

O priblishennom reshenii integral' nykh uravneniy. Tbilisi, Trudy matem.
in-ta, AN Gr SSR, 13 (1944), 29-52.

SO: Mathematics in the USSR, 1917-1947
edited by Kurosh, A.G.,
Markushevich, A.K.,
Rashevskiy, P.K.
Moscow-Leningrad, 1948

VAYNSHTEYN, L.B.; ARTCHUNKO, V.P.

Economic effectiveness of producing caramel-base candy. Khleb. i kond. prom. 1 no.1:33-36 '57. (MIRA:4)

1. Ukrainskiy nauchno-issledovatel'skiy institut pishchevoy promyshlennosti.

(Confectionery)

ARTNER, B., inz.

Experience in experimental production of large elements from porous concrete in Zemianske Kostolany. Stavivo 41 m. II: 400-402 N°63.

1. Lahke stavebne hmoty, n.p. Bratislava.

ARTNER, GUSTAV

Užitkovani lesa. [Vyd. 1.] Praha, Statni pedagogicke nakl., 1953. Vol. 1.
(Ucební texty vysokých škol) [Utilisation of the forest; lumbering. Illus.]

SO: Monthly List of ~~XXXXXX~~ Accessions, East European Vol. 3, No. 2,
Library of Congress, February, 1954, ~~1954~~, Incl.

ARTNER, G.

Transportation of timber, one of the most important
technical and economic operations in present-day lumbering.
p. 211.
SBORNÍK. RADA Č: SPISY FAKULTY LESNÍČNÉ: Brno.
No. 4, 1955.

SOURCE: EEAL - LC Vol. 5 No. 10 Oct. 1956

CZECHOSLOVAKIA

ARTNER, P.; Factory Institute of National Health at the Metal-
urgical Plant of Klement Gottwald [Zavodni Ustav Narodniho Zdra-
vi MHKG], Ostrava - Kuncice, Head [Reditel] Doctor Z. VICH.

"Clinical Experience with Fenascopen SPOFA."

Prague, Casopis Lekaru Ceskych, Vol 102, No 43, 1963, pp 1188-
1192

Abstract: Comparison was made between Fenascopen and Procain-
penicillin in a group of 100 patients. Fenascopen was adminis-
tered every 4 hours first 3 days and every 6 hours after that.
In bronchial pneumonia 6.4% patients had to receive tetracycline
antibiotics, in cholecystitis 10%, in chronic bronchitis 18.1%,
in pneumonia 33%. Fenascopen shows best results in otitis, pyo-
dermia and sinusitis. No side effects were noticed; administra-
tion by injections did not show any advantages.
3 Tables, 3 Western 1 Czech reference.

1/1

7

ARNER, Tivadar

Discobolus. Elet tud 16 no.33:1046-1047 13 Ag '61.

Арифметика, теория чисел, алгебра, геометрия, физика, химия.

[Arithmetic problems with practical content] Arifmetika i
drukie zadachi s prakticheskim lytovoz nodrazhaniem.
Moskva, Uchpedgiz, 1961. 67 p. (MIRA 1949)

ARTOBOLEVSKIY, I. I.; VISHNEVSKIY, A. A.; BYKHOVSKIY, M. L.

Automatic information system for finding a clinical precedent.
Eksper. khir. no.3:3-10 '62. (MIRA 15:7)

1. Iz Instituta khirurgii imeni A. V. Vishnevskogo (dir. -
deystvitel'nyy chlen AMN SSSR prof. A. A. Vishnevskiy) AMN
SSSR.

(ELECTRONIC DATA PROCESSING) (MEDICINE)

ARTOBOLEVSKY, I. I. - USSR Academy of Sciences, Leningrad Road 7, Moscow D-40-USSR.

"Basic Problems of the Modern Dynamics of Machines."

report submitted for the 10th Intl. Congress on Applied Mechanics, Strasa, Italy,
31 Aug-7 Sep 1960.

PHASE I BOOK EXPLOITATION SOV/4358

Trud i tekhnika v semiletke (Labor and Engineering in the Seven-Year Plan) Moscow, Profizdat, 1960. 365 p. (Series: Massovaya biblioteka rabocheho) 10,000 copies printed.

Compiler: S. G. Krylov; Ed.: A. V. Anisimov; Tech. Ed.: A. A. Golichenkova.

PURPOSE: This book is intended for the general reader.

COVERAGE: The book is a collection of 19 articles dealing with the achievements and progress of the Seven-Year Plan in branches of the Soviet economy and in science. Attention is given to power plant construction, machine building, cybernetics, electrification, transportation, prospecting, steel production, production of consumer goods, mechanization of agriculture, and chemistry. Suggestions for further progress are made. No personalities are mentioned. There are no references.

Card 1/5

Labor and Engineering (Cont.)

80V/4358

TABLE OF CONTENTS:

Lesechko, M. A. [Deputy Chairman, State Planning Committee, Council of Ministers of the USSR] Development of Engineering and Increase of Labor Productivity During the Seven-Year Plan	3
Strumilin, S. G. [Member, Academy of Sciences USSR] Economic Significance of Automation of Production	26
Artobolevskiy, I. I. [Member, Academy of Sciences USSR] The Heart of Industry	43
Prokopovich, A. Ye. [Deputy Director, Eksperimental'nyy nauchno-issledovatel'skiy institut metallorezhushchikh stankov (Experimental Scientific Research Institute of Metal-Cutting Machine Tools)] From Automatic Machine Tools to Automatic Production Lines, Shops, and Factories	59
Kobrin'skiy, A. Ye. [Doctor of Technical Sciences] Program Control of Machine Tools	95
Card 2/5	

25(2), 29(0)

AUTHOR:

Artobolevskiy, I. I., Academician

S/030/60/000/01/031/067
B015/NO 1

TITLE:

Conference on the Theory of Mechanisms and Machines

PERIODICAL:

Vestnik Akademii nauk SSSR, 1960, Nr 1, pp 76-79 (USSR)

ABSTRACT:

The Conference was held in Aachen from September 16 to 19, 1959 (German Federal Republic). It had been convened by the Committee of Scientific Research of the Verein Deutscher Ingenieure (German Engineers' Association). Apart from the German Federal Republic, the Conference was attended by delegates from Eastern Germany, Denmark, Romania, Turkey, the USSR, the USA, and the Union of South Africa. The Conference was devoted to the problem of the dynamic investigation of the most efficient and most economical constructions of mechanisms. The reports of the Soviet delegation dealt with problems of applications of similarity in the investigation of the dynamics of heavy machines (S. N. Koshevnikov), as well as the modern concept of the dynamics of mechanisms and machines (I. I. Artobolevskiy). The author emphasized the great interest displayed by German experts in the seminar studies concerning

Card 1/2

Conference on the Theory of Mechanisms and Machines S/030/60/000/01/031/067
B015/11011

the theory of machines and mechanisms which were published
by the Institut mashinovedeniya (Institute of Machine Construc-
tion).

Card 2/2

S/003/60/000/005/001/001
B013/B017

AUTHOR : Artobolevskiy, I. I. Academician
TITLE: A reform of courses of the theory of mechanisms and machines.
How should the TMM course be

PERIODICAL: Vestnik vysshey shkoly, no. 5, 1960, 45-47

TEXT: The author discusses the teaching problem connected with the theory of mechanisms and machines in institutes of technology. A discussion on the mentioned topic in the "Vestnik vysshey shkoly" gave rise to this article. The articles of A. M. Antovil' (1959, no. 8); D. I. Kostyuk, S. I. Shubovich, Yu. Ya. Kovylin, N. F. Rudenko and V. M. Osetskiy are mentioned in this connection and also G. A. Blokh, S. I. Gleyzer and the opinion of a department (1960, no. 1). It is the opinion of the author that the student should obtain a well rounded knowledge in the general theory of mechanisms and machines and the kinematic and dynamic calculations of machines; lectures and laboratory work are suggested for this purpose. A special training should mainly be obtained during laboratory

Card 1/3

A reform of courses of the...

S/003/60/001/005/001/001
B013/B077

work and within the course. The author criticizes the tendency to shorten the education in this field, and calls the attention to the fact that due to increasing automation, engineers with a broad education only, will be able to cope with problems confronting them. The specialization should be made on the job. The author reports that the principle of a general education of engineers is especially promoted abroad; last year he was able to see this when he visited 13 universities in the USA and several institutes of technology in Western Germany. According to the author, lectures about the theory of mechanisms and machines should mainly deal with mechanical systems and hydraulic mechanisms to a certain degree. Electric and electron machinery should be taught in special courses. The author suggests to divide the whole course into two parts; one part which he calls "Theory of Mechanisms" should deal with questions of the structure of mechanisms including the kinematic and dynamic analysis and also the "kinetostatic" calculation. Furthermore the question of synthesis of mechanisms should be dealt with. The other part "Theory of Machines" should deal with questions of the structure, i.e., the connection between the kinematics of machines and the technological operations done by them.

Card 2/3

A reform of courses of the...

S/003/60/000/005/001/001
B013/B077

Some basic questions are emphasized: The author thinks the section "Structures of Mechanisms" is very important, and that questions of analysis should not be compared with those of synthesis; more time and consideration should be devoted to questions of dynamics; geometric and analytic methods of investigations should be combined without disadvantage for one of these methods; application of the expression of the so-called "exchange mechanism" is justified. A. M. Antovil's criticism of existing textbooks is said to be too subjective. His criticism could be objective if those books could be compared with new books. To conclude, the author mentions that it would be necessary for a committee of the ministerstva vysshego i srednego spetsial'nogo obrazovaniya RSFSR or SSSR (Ministries for Special Training in Colleges and High Schools RSFSR or USSR) to check the problems with regard to contents of courses and position in the timetable, as outlined in the resolution of the Seminar po teorii mashin i mekhanizmov pri Institut mashinovedeniya AN SSSR (Seminar for Theory of Machines and Mechanisms of the Institute of Machines AS USSR). An All-Union Conference would be in order. The author suggests to give reports about methodical subjects in the seminar. There is 1 Soviet-bloc reference.

Card 3/3

ARTOBOLEVSKIY, I.I.

Study on the development of the theory of mechanisms for reproducing
curves. Vop.ist.est.i tekhn. no.10:129-131 '60. (MIRA 14:3)
(Mathematical instruments)

ARTOBOLVSKIY, I.I., akademik

Aachen conference on the theory of mechanisms. Trudy Inst.mash. Sem.
po teor.mash. 21 no.81/82:46-54 '60. (MIRA 13:11)
(Mechanical engineering--Congresses)

ARTOBOLYVSKIY, I. I., akademik

Some problems in mechanics of drives with intermittent motion.
Trudy Inst.mash. Ser. po teor.mash. 21 no.81/82:68-85 '60.

(NIRA 13:11)

1. Nauchnyy rukovoditel' seminarov po teorii mashin i mekhanizma.
(Machinery, Kinematics of)

ARTOPOLEVSKIY, I.I., akademik

Man and automation. Tekh. mol. 28 no.7:19 '60. (MIRA 13:8)
(Automation)

PHASE I BOOK EXPLOITATION

SUV/5734

Akademiya nauk SSSR. Institut mashinovedeniya. Seminar po teorii mashin i mekhanizmov.

Trudy, t. 21, vyp. 83-84 (Academy of Sciences of the USSR. Institute of Machine Science. Seminar on the Theory of Machines and Mechanisms. Transactions) v.21, nos. 83-84. Moscow, Izd-vo AN USSR, 1961. 161 p. Errata slip inserted. 2000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR.

Editorial Board: Resp. Ed.: I.I. Artobolevskiy, Academician, G.G. Earanov, Professor, Doctor of Technical Sciences; M.L. Bykhovskiy, Doctor of Technical Sciences; V.A. Gavrilenko, Professor, Doctor of Technical Sciences; V.A. Zinov'yev, Professor, Doctor of Technical Sciences; A.Ye. Kobrinskiy, Doctor of Technical Sciences; N.I. Levitskiy, Professor, Doctor of Technical Sciences; N.P. Rayevskiy, Doctor of Technical Sciences; L.N. Reshetov, Professor, Doctor of Technical Sciences; and M.A. Skuridin,

Card 1/6
4

Seminar on the Theory (Cont.)

SOV/5734

Professor, Doctor of Technical Sciences; Ed. of Publishing House: A.A. Demidenko; Tech. Ed.: S.G. Tikhomirova.

PURPOSE: This collection of articles is intended for scientific research workers and designers in the fields of machine and mechanism dynamics.

COVERAGE: The articles in No. 83 discuss the following: developments and achievements in the field of machine and experimental dynamics, including vibrations and vibratory impact; investigations in the theory of intermittent motions; differential equations for describing the joint motion of mechanical (disbalancing) vibrators; investigations into the dynamics and stability of periodic regimes of motion in vibratory-impact systems; an attempt to find an approximate periodic solution of a second-order non-linear differential equation; and results of the application of electronic analog computers in analyzing the operation of rolling mills. No. 84 includes articles on the following: an analytical

Card 2/8

Seminar on the Theory (Cont.)

SOV/5734

method for determining the positions of three-dimensional multiple-link mechanisms composed of three-dimensional kinematic groups with lower kinematic pairs; an analytical method for determining the parameters of the simplest hinged linkage with two degrees of freedom; a general method for investigating three-dimensional gearings; the effect of dry-friction dampers on vibrations in railway vehicles; and the utilisation of Burmester's curves for determining the parameters of a multiple-link hinged linkage with a dwell. No personalities are mentioned. References accompany individual articles. There are 260 references: 212 Soviet, 31 English, 16 German, and 1 French.

TABLE OF CONTENTS:

No. 83

Foreword

3

Card 3/6

4

ARTOBOLVSKIY, I.I., akademik

Basic problems of the modern dynamics of machinery. Mekh.i elek.sots.
sel'khoz. 19 no.5:15-18 '61. (MIRA 14:10)
(Machinery--Dynamics)

ARTOBOLYVSKIY, I.I.

Basic problems in modern dynamics. Trudy Inst.mash. Sssr. po teor.
mash. 21 no.83-84:5-28 '61. (MIRA 14:6)
(Dynamics) (Machinery)

ARTOBOLIEVSKIY, I.I., akademik

Third All-Polish Conference on the Theory of Machinery and
Mechanisms. Vest. AN SSSR 31 no.10:119 0 '61. (MIRA 14:9)
(Mechanical engineering--Congresses)

ARTOBOLEVSKIY, I.I., akademik

Theory of four-membered mechanisms with two forward moving pairs.
Dokl. AN SSSR 139 no.4:838-840 Ag '61. (MIRA 14:7)
(Kinematics)

244100

27255
8/020/61/139/005/005/021
B104/B201

AUTHOR: Artobolevskiy, I. I., Academician
TITLE: Linearly enveloping connecting-rod curves in mechanisms with a translational pair
PERIODICAL: Akademiya nauk SSSR. Doklady, v. 139, no. 5, 1961, 1077-1080

TEXT: A study has been made of the theory of linearly enveloping connecting-rod curves in mechanisms with three rotational pairs and one translational pair. The crankgear mechanism presented in Fig. 1 is studied, the arbitrary straight line $u-u$ being chosen such as to pass through the point B at an angle γ to the rod BC. The straight lines AF and AE are perpendicular to $u-u$ and BC, respectively. The parametric representation

Card 1/3

Linearly enveloping connecting-rod ...

27255

8/020/61/139/005/005/021
B104/B201

$$\begin{aligned}
 x &= [p_1 \cos (\theta_1 + \gamma) - \Psi \sin (\theta_1 + \gamma)] \cos \gamma + \\
 &+ [\sqrt{a^2 - p_1^2} \cos (\theta_1 + \gamma) + \frac{p_1 \Psi}{\sqrt{a^2 - p_1^2}} \sin (\theta_1 + \gamma)] \sin \gamma, \\
 y &= [p_1 \sin (\theta_1 + \gamma) + \Psi \cos (\theta_1 + \gamma)] \cos \gamma + \\
 &+ [\sqrt{a^2 - p_1^2} \sin (\theta_1 + \gamma) - \frac{p_1 \Psi}{\sqrt{a^2 - p_1^2}} \cos (\theta_1 + \gamma)] \sin \gamma.
 \end{aligned}
 \tag{5}$$

is obtained for the linearly enveloping connecting-rod curves. The following definitions are valid here: $p_1 = AE = (b \sin \theta_1 + \sqrt{b^2 \sin^2 \theta_1 - m^2}) \cos \theta_1$, $b = BC$, $m^2 = b^2 - a^2$, $a = AB$, $\Psi = \dot{p}_1 / \dot{\theta}_1$. The continuous coordinates of the curve enveloping the straight line u-u can be graphically determined from Fig. 1. The parametric equations of the envelope of the rod BC are obtained from (5) by putting γ equal to zero. They are also given for the envelope of the straight line u-u for $\gamma = 90^\circ$. If, in this mechanism, condition $a = b$ is satisfied, BC will perform a Cardanic motion, in which

Card 2/3

27255

S/O20/61/131/005/005/021
B104/B201

Linearly enveloping connecting-rod ...

an arbitrary straight line lying in the plane of rod BC possesses, as the envelope, a straight line or a deformed asteroid. The loci of all points E and P are then discussed. If $a = b$, $p_1 = a \sin 2\theta_1$

$p_1 = a \sin (2\theta_1 + j)$. Finally, the parametric representation of the envelope of the slot-hole mechanism presented in Fig. 2 and consisting of four parts (one translational part) is derived:

$$\begin{aligned}
 x &= b \cos^3 \gamma + \left[\sqrt{a^2 - b^2 \cos^2 \theta_1} \cos (\theta_1 + \gamma) - \frac{b^2 \sin \theta_1 \cos \theta_1}{\sqrt{a^2 - b^2 \sin^2 \theta_1}} \sin (\theta_1 + \gamma) \right] \sin \gamma \\
 y &= b \sin \gamma \cos \gamma + \left[\sqrt{a^2 - b^2 \cos^2 \theta_1} \sin (\theta_1 + \gamma) + \frac{b^2 \sin \theta_1 \cos \theta_1}{\sqrt{a^2 - b^2 \sin^2 \theta_1}} \cos (\theta_1 + \gamma) \right] \sin \gamma.
 \end{aligned}
 \tag{17}$$

Card 3/8

4

ARTOLOVSKIY, I.I., akademik

Linearly enveloping piston rod curves for a four-membered
ellipsograph. Dokl. AN SSSR 139 no.6:1336-1338 Ag '61.
(Connecting rods) (MIRA 14:8)
(Mechanics)

ARTOBOLVSKIY, IYER Ivanovich, akademik; IVANOV, S.M., red.; RAKITIN,
I.T., tekhn. red.

[The great twenty years] Velikoe dvadtsatiletie. Moskva, Izd-
vo "Znanie," 1962. 37 p. (Novoe v nauke, zhizni, tekhnike.
III Seriya: Ekonomika, no.5) (MIRA 15:6)
(Russia--Economic policy)

ARTOBOLEVSKIY, I.I., akademik, otv. za vypusk

[Hydromechanics, wave motion, theory of structures; terminology]
Gidromekhanika, volnovoe dvizhenie zhidkosti, stroitel'naya me-
khanika; terminologiya. Moskva, Izd-vo Akad. nauk SSSR, 1962.
85 p. (Sbornik rekomenduemykh terminov, no.58) (MIRA 15:8)

1. Akademiya nauk SSSR. Komitet tekhnicheskoy terminologii.
(Fluid mechanics--Terminology)
(Wave motion, theory of--Terminology)
(Structures, Theory of--Terminology)

AKTIOBULEVSKIY, I. I.

PHASE I BOOK EXPLOITATION SOV/6201

Vsesoyuznyy s"yezd po teoreticheskoy i prikladnoy mekhanike. 1st, Moscow, 1960.

Trudy Vsesoyuznogo s"yezda po teoreticheskoy i prikladnoy mekhanike, 27 yanvarya -- 3 fevralya 1960 g. Obzornyye doklady (Transactions of the All-Union Congress on Theoretical and Applied Mechanics, 27 January to 3 February 1960. Summary Reports). Moscow, Izd-vo AN SSSR, 1962. 467 p. 3000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Natsional'nyy komitet SSSR po teoreticheskoy i prikladnoy mekhanike.

Editorial Board: L. I. Sedov, Chairman; V. V. Sokolovskiy, Deputy Chairman; G. S. Shapiro, Scientific Secretary; G. Yu. Dzhanelidze, S. V. Kalinin, L. G. Loytsyanskiy, A. I. Lur'ye, G. K. Mikhaylov, G. I. Petrov, and V. V. Rumyantsev; Resp. Ed.: L. I. Sedov; Ed. of Publishing House: A. G. Chakhirev; Tech. Ed.: R. A. Zamarayeva.

Card 1/2

Transactions of the All-Union Congress (Cont.)

SOV/6201

PURPOSE: This book is intended for scientific and engineering personnel who are interested in recent work in theoretical and applied mechanics.

COVERAGE: The articles included in these transactions are arranged by general subject matter under the following heads: general and applied mechanics (5 papers), fluid mechanics (10 papers), and the mechanics of rigid bodies (8 papers). Besides the organizational personnel of the congress, no personalities are mentioned. Six of the papers in the present collection have no references; the remaining 17 contain approximately 1400 references in Russian, Ukrainian, English, German, Czechoslovak, Rumanian, French, Italian, and Dutch.

TABLE OF CONTENTS:

SECTION I. GENERAL AND APPLIED MECHANICS

Artobolevskiy, I. I. Basic Problems of Modern Machine Dynamics 5

Bogolyubov, N. N., and Yu. A. Mitropol'skiy. Analytic Methods of the Theory of Nonlinear Oscillations 25

Card 2/2

ARTOBOLEVSKIY, I.I. (Moskva); HESSONOV, A.P. (Moskva)

Equation of the motion of a flat mechanism with a variable mass.
Izv. AN SSSR. Otd. tekhn. nauk. Mekh. i mashinostr. no. 2, 92-95 Mr-Ap
'62. (MIRA 15:5)

(Mechanical movements)

ARTOBOLVSKIY, I.I., akademik, prof.

Important landmark in the development of Soviet-American
relations. Mir nauki no.4:15-17 '62. (MIRA 16:11)

ARTOBSLEWSKI, I.I.: Prof.

The role of the theory of machines in the development of
contemporary machine construction. Przegł techn no.25:
3. Je '62.

1. Calonek Akademii Nauk, Związku Socjalistycznych Republik
Radzieckich.

S/020/62/144/001/009/024
B104/B102

AUTHOR: Artobolevskiy, I. I., Academician

TITLE: Linearly enveloping cycloidal curves

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 1, 1962, 76-79

TEXT: Linearly enveloping cycloidal curves are produced by a three-member satellite mechanism (Fig. 1). The guide bar (3) performs pairs of fifth class with a fixed wheel (1) and a movable wheel (2). The curve which linearly envelopes the position of the straight line $u = u$ when wheel (2) rolls on wheel (1) is described by

$$x = -(R+r) \left[\cos \frac{1}{1+\lambda} (\beta - \theta) \cos \theta - \frac{1}{1+\lambda} \sin \frac{1}{1+\lambda} (\beta - \theta) \sin \theta \right] + a \cos \theta; \quad (10) \quad (10)$$

$$y = -(R+r) \left[\cos \frac{1}{1+\lambda} (\beta - \theta) \sin \theta + \frac{1}{1+\lambda} \sin \frac{1}{1+\lambda} (\beta - \theta) \cos \theta \right] + a \sin \theta. \quad (11) \quad (11)$$

If wheel (2) touches wheel (1) from inside, these equations acquire the form

Card 1/2

Linearly enveloping cycloidal ...

S/020/62/144/001/009/024
B104/B102

$$x = (R - r) \left[\cos \frac{1}{1-\lambda} (\beta - \theta) \cos \theta - \frac{1}{1-\lambda} \sin \frac{1}{1-\lambda} (\beta - \theta) \sin \theta \right] + a \cos \theta; \quad (12)$$

$$y = (R - r) \left[\cos \frac{1}{1-\lambda} (\beta - \theta) \sin \theta + \frac{1}{1-\lambda} \sin \frac{1}{1-\lambda} (\beta - \theta) \cos \theta \right] + a \sin \theta; \quad (13);$$

$\lambda = r/R$. If wheel (1) degenerates to a straight line, the equations for the enveloping curve read

$$x = r \left[\sin \theta \cos \theta + \left(\frac{4\pi}{3} - \theta \right) \right] + a \cos \theta; \quad (16)$$

$$y = r \sin^2 \theta + a \sin \theta. \quad (17).$$

There are 4 figures.

SUBMITTED: February 8, 1962

Card 2/3

ARTOBOLVSKIY, I.I., akademik

Curvature of linearly enveloping cycloidal curves. Dokl. AN SSSR
145 no.3:541-544 J1 '62. (MIRA 15:7)
(Curves) (Envelopes (Geometry))

ARTOBOLEVSKIY, I.I., akademik, doktor tekhn. nauk, red.; LEVITSKIY,
N.I., doktor tekhn. nauk, prof., red.; KOZHEVNIKOV, S.N.,
red.; KOBRINSKIY, A.Ye., doktor tekhn. nauk, red.; PETROKAS,
L.V., doktor tekhn. nauk, prof., red.; GAURILENKO, V.A.,
doktor tekhn. nauk, prof., red.; BESSONOV, A.I., kand. tekhn.
nauk, red.; SHEKHVITS, E.I., kand. tekhn. nauk, red.

[Theory of automatic machines and of hydraulic and pneumatic
drives] Teoriya mashin-avtomatov i gidro-pnevmooprivoda; sbornik
statei. Moskva, Mashgiz, 1963. 327 p. (Its: Trudy)
(MIRA 17:10)

1. Soveshchaniye po osnovnym problemam teorii mashin i mekha-
nizmov. 3d, Moscow, 1961. 2. Chlen-korrespondent AN UkrSSR
(for Kozhevnikov).

ARTOOLEWSKI, Iwan [Artobolevskiy, Ivan]; NOWICKI, Czeslaw [translator]

Machine mechanics at the present development stage of science
and engineering. Problemy 19 no.10:594-598 '63.

1. Czlonek Akademii Nauk ZSSR, doktor honorowy Politechniki
Lodzkiej.

ARTOBOLEVSKIY, I.I.

Curvature of linearly enveloping connecting-rod curves.
Teor. mash. i mekh. no.94/95:41-53 '63. (MIRA 16:11)

ARTOBOLVSKIY, I.I.; VIL'DT, Ye.O.; GRODZENSKAYA, L.S.; GUDMAN, T.P.;
LEVITSKIY, N.I.; KHARTENBERG, R.S.

Kinematics of mechanisms; German-English-Russian termino-
logical dictionary. Teor. mash. i mekh. no.94/95:54-68
'63.
(MIRA 16:11)

ARTOBOLVSKI, I.I.; BESSONOV A.P.; SHLYAKHTIN, A.V. (Moscow)

"Some problems of machine dynamics with special reference to variable masses and elasticity of links"

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

BOLEVOIKIY, I.I., akademik

Mechanisms for drawing parabolic and hyperbolic curves. Dokl.
AN SSSR 156 no. 5:1049-1052 Ja '64. (MIRA 17:6)

ARTOBOLEVSKIY, I.I., akademik; BALEZIN, S.A., zasluzhennyy deyatel' nauki RSFSR, doktor khim.nauk, prof.; GROMOV, A.A., laureat Leninskoy premii, deputat Verkhovnogo Soveta SSSR; YEGOROV, B.S., deputat Verkhovnogo Soveta RSFSR, zasluzhennyy isobretatel' RSFSR; SEMINSKIY, V.K., tokar', deputat Verkhovnogo Soveta UkrSSR, laureat Gosudarstvennoy premii, zasluzhennyy isobretatel' UkrSSR.

Readers' rostrum. Izobr.i rats. no.4:36-37 '64. (MIRA 17:4)

1. Direktor Pervogo gosudarstvennogo podshipnikovogo zavoda imeni L.M.Kaganovicha (for Gromov). 2. Zavod "Krasnyy ekskavator" (for Seminskiy).

S/0248/64/000/002/0042/0049

ACCESSION NR: APL012879

AUTHOR: Vishnevskiy, A. A.; Artobolevskiy, I. I.; Byelkhovskiy, K. L.

TITLE: Design principles of diagnostic machines

SOURCE: AMN SSSR. Vestnik, no. 2, 1964, 42-49

TOPIC TAGS: electronic computer, URAL-2 electronic computer, diagnostic system, computer memory, logic system, congenital heart defect, case history punched card, deterministic logic, probability logic, disease diagnostic system, diagnostic system possible application, heart catheterization, case history standardization

ABSTRACT: A diagnostic system based on electronic computer URAL-2 has been developed by the cybernetics laboratory of the reporting association. This system is applicable to any disease and consists of a memory of accumulated medical experience and a logic system which compares the symptoms of a given patient with symptoms and syndromes in the memory. Congenital heart defects are used as an example. Two hundred symptoms and the 50 most common surgically correctable anomalies are stored in the memory. A punched card is prepared for

Card 1/3 2

ACCESSION NR: AP4012879

each case history showing symptoms and their frequency. To establish a diagnosis, the card is fed to the computer and the symptoms are compared with the information in the computer memory. If the symptoms coincide with syndromes in the memory, the computer gives the disease name as the diagnosis. If the symptoms do not coincide with any syndromes, then each symptom is compared with the 200 symptoms in the memory. All impossible diseases are eliminated leaving 5-6 possibilities. The correct diagnosis is then found by probability logic with mathematical conversions of the relative weight and frequency of each symptom. Diagnoses for 200 cases over the past 2 yrs have been 80-90% correct depending on type of congenital heart defect. This diagnostic system is a dynamic process with the computer indicating when additional data is needed. The patient is subjected to fewer tests and the computer can make the final diagnoses in cases which ordinarily would require heart catheterization. This diagnostic system is applicable to any disease and can also be used for prognosis in serious traumatic injuries. Orig. art. has: 1 table and 2 figures.

ASSOCIATION: Institut khirurgii im. A. V. Vishnevalskogo AMN SSSR,
Moscow (Institute of Surgery, AMN SSSR)

Card 2/3 2

VISHNEVSKIY, A.A.; ARTOBOLEVSKIY, I.I.; BYKHOVSKIY, M.I.

Principles for the construction of diagnostic machines. Vest. AMN
SSSR 19 no.2:42-49 '64. (MIRA 18:1)

1. Institut khirurgii imeni A.V. Vishnevskogo AMN SSSR, Moskva.

ARTBOLEVSKIY, I.I., *Akademiya*

Preface. Teor. rasn. i mekh. no.100:3 '64.

(NFA 17:11)

ARTOBOLEVSKIY, I.I., akademik

Preface. Teor. mash. i mekh. no.101/102:3 '64.

(MIRA' 17:11)

ARTOBOLEVSKIY, I.I., akademik

Preface. Teor. mash. i mekh. no.103/104:3 '64.

Preface. Ibid.:71

(MIRA 17:11)

ARTOBOLIVSKIY, I. I., akademik; CHEKANGV, A. A., kand. tekhn. nauk

Beacon light of Russian science; 200th anniversary of M.V. Lomonosov's death. Priroda 54 no.5:10-16 My '65.

(MIRA 18:5)

ARTOBOLEVSKIY, I.I. (Moskva)

Basic problems in the modern theory of machinery. Mashinovedenie
no.1:5-13 '65. (MIRA 18:5)

KAPUSTIN, Ivan Il'ich; ARTOBOLVSKIY, I.I., akademik, ratsenzent;
GUROV, S., red.

[How machines are created] Kak sozdaiut mashiny. Moskva,
Mosk. rabochii, 1969. 373 p. (MIRA 19:1)

ARTOBOLVSKIY, Ivan [Ivanovich]; ZHIVOTYEV, V.A., prof., red.

[Theory of mechanisms] Teoriya mekhanizmov. Moskva,
Nauka, 1965. 776 p.
(MIRA 18:11)

SOURCE CODE: LR/9003/57/000/030/0001/0001

AUTHOR: Artobolevskiy, I. (Academician, Administrative chairman)

ORG: none

TITLE: Education for the masses

SOURCE: Izvestiya, no. 30, 4 Feb 67, p. 1, cols. 1-2

TOPIC TAGS: education, scientific information

ABSTRACT:

At present, in each area of human scientific activity, it is necessary to consider not only the results of completed research, but also the prospects for scientific development. Consequently, the popularization of science has become a more and more vital stage in its development, and the participation of the scientist in scientific propaganda is an integral part of creative scientific activity. While there are many examples of scientists participating in propaganda work, the tremendous reserves needed for supplementing qualified lecturing cadres are of far less than sufficient availability. Only 90,000 of the 660,000 scientific workers in the country participate in the society "Znaniye." Young scientists particularly should be attracted

Card 1/2

UDC: none

ACC NR: AN7003547

to such work. Only a very few well-known scientists are involved in publishing popular books. More attention should also be given to scientific enrichment for the rural population.

SUB CODE: 05/ SUBM DATE: none/ ATD PRESS: 5112

Card 2/2

1. ARTOBOLVSKIY, I.I., Corresponding Member of the
Academy of Sciences

2. USSR (600)

"Significance of the Problem of the Theory of Machines
and Mechanisms in Machine Building its Contemporary
Status and Future Questions," Iz. Ak. Nauk SSSR, Otdel,
Tekh. Nauk, No. 1, 1940.

9. ~~USSR~~ Report U-1530, 25 Oct 1951.

ARTOBOLVSKIY, I. I.

Teoriia prostranstvennykh mekhanizmov. Moskva, Ob" edinennno: nauchno-
tekh. izd-vo NKTP SSSR, 1937*

Theory of spatial mechanisms.

RFB

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library
of Congress, 1953.

ARTOBOLVAYI, IVAN IVANOVICH.

Metody uravnoveshivaniia sil inertsii v rabovnikh mashinakh so slozhnymi kinematicheskimi skhemami. Moskva, AN SSSR, 1938. 45 p.

(Akademia nauk SSSR. Otdelenie tekhnicheskikh nauk. Seriya VII. Mashinovedenie. Vyp. I.)

Equilibration of the forces of inertia in machines of complicated motion systems.

DLC: Unclass

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

ARTOBOLVSKIY, I. I.

"Synthesis of Plane Mechanisms," (Sintez ploskikh mekhanizmov) Parts 1-2, Moscow-Leningrad, 1939-42.

"Structure, Kinematics, and Kinetostatics of Multiple-Link Plane Mechanisms," (Struktura kinematika i kinetostatika mnogozvennykh ploskikh mekhanizmov) Moscow-Leningrad, 1939.

"Greetings to Academician B. A. Vvedenskiy," (with B. N. YUR'NEV) Iz. Ak. Nauk, USSR, Otdel. Tekh. Nauk, 6. 1949.

Mechanism, (book), 1949

ARNOBOLEVSKIY, I. I.

"Theory of Mechanisms and Machines," Parts 1-2, Moscow-Leningrad, 1940
(Teoriya Mekhanizimov i mashin)

ANTOBOLSKII, I. J.

"Russian School on the Theory of Machines and Mechanisms," Iz Ak Nauk
SSSR, Otdel Tekh Nauk, No 7, 1943

ARTOB-LEVSKIĬ, I. I., Z. SH. BLOKH AND V. V. DOHROVOL'SKIĬ

Sintez mekhanizmov. Moskva, Gostekhizdat, 1944. 386 p. diagrams.

Bibliography: p. 375-384

Synthesis of mechanisms

DLC: Tj175.A7

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

ARTDGOLEVSKIY, I. I.

"Concerning Two New Three-Dimensional Mechanism," Iz. Ak Nauk, SSSR, Otdel
Tekh Nauk, Nos 7-8, 1944

ANTONOVSKIY, I. I.

"Synthesis of Mechanisms," (with V. V. Dobrovelskiy,) Moscow, 1944.
(Sintez mekhanizmov)

"On Flywheel Design," Dok. AN, 44, No. 5, 1944.

"On Two New Loci in the Kinematics of Plant Mechanism," Dok. AN, 44, No. 6, 1944.

"On Evolutes of Connecting Rod Curves," Dok. AN, 45, No. 3, 1944.

ARTOBOLEVSKIY, I. I.

Analytical Methods of Automatic Machines, Part I with drawings, Moscow, 1945.
(with S. I. Artobolevskiy, W. A. Udov, and G. A. Shauman.)

ARTOPOLERSKIY, IVAN IVANOVICH

Kurs teorii mekhanizmov i mashin. Dop. v kachestve uchebnika dlia vyssh. tekhnich. uchebn. zavedenii. Moskva, Gostekhzdat, 1945. 149 p. diagrs.

A course in the theory of mechanisms and machines.

DLC: TJ175.A68

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

ARTOBOLVSKIĬ, IVAN IVANOVICH.

Russkii izobretatel'i konstruktor Kulibin.
Moskva Molodaia gvardiia, 1946. 23 p. illus.

Kulibin, the Russian inventor and designer (1735-1818)

T40.K0A8 1946

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library
of Congress, 1953.

...parallel-
 ...an ellipse if one of
 ...the blocks sliding on the
 long bars and mounted together can carry a handle or cutting
 tool. This arrangement can be used as a device for machine
 tools to make more complicated grinding or impregnated
 Similar arrangements are often used for describing hyperbolic
 and parabolic. In the use of such devices, in construction
 ... of a ...
 ... of a ...

...the trace by entering the
 ... of ...
 ... of ...
 ... of ...

Source: ...
 Vol. ... No. 3

Archelevsky, I. E. On some mechanical equivalent
 problems. *Mathematical Journal*, Acad. Sci.
 USSR (N.S.) 52, 149-153 (1940).

It is known that the relation between the length of a
 side and the rotation of a triangle about a vertex
 by a constant angle can be analyzed by a block of wood
 against an elliptical, circular or hyperbolic curve, depending
 on whether the constant angle is, respectively, smaller,
 equal to or shorter than the feasible angle. (J. Goldstein)

Source: *Mathematical Reviews*,

ANTOBOLEVSKIY, I. I., ZINOV'YEV, V., Edel'steyn, B. V.

"Collection of Problems in Theory of Mechanisms and Machines," Moskva, Gos.
izd. tekhn-teoret. lit-ry, 1947

MIRA July 1952

CHUDAKOV, Ye.A., akademik, glavnyy redaktor; AKOPOV, S.A., redaktor; ARTOROL
LEVSKIY, I.I., redaktor; AGHERKAN, N.S., redaktor; BESHPIKOVANYY, I.M.,
redaktor; GUDISOV, N.F., redaktor; DZIKHIN, V.I., redaktor; YEFREMOV,
A.I., redaktor; ZAPOROZHETS, V.K., redaktor; ZIMIN, A.I., redaktor; ZA-
ZAKOV, N.S., redaktor; KIRPICHENOV, M.V., redaktor; KOVAN, V.N., redaktor;
KONYUKHAYA, Yu.P., redaktor; LIPGART, A.A., redaktor; MAKYMENOV, V.A., re-
daktor; MARTENS, L.K., redaktor; MARIYENKAKH, L.N., redaktor; NIKOLAYEV,
G.A., redaktor; ODING, I.A., redaktor; PATON, Ye.O., redaktor; RANNIS,
L.K., redaktor; RYBTSOV, N.N., redaktor; SAVERIN, M.A., redaktor; SHCHU-
CHENKO, I.I., redaktor; SHCHUKHIN, S.V., redaktor; SHKANI, N.A., redaktor;
SHNEIST, A.N., redaktor; SHUKHAL'YER, L.Ya., samostitel' glavnogo re-
daktora, redaktor; YAKOVLEV, A.S., redaktor.

[Machine construction encyclopedic handbook] Mashinostroeniye; entsiklope-
dicheskiy spravochnik. Part 1. [Engineering calculations in machine
construction] Inzhenernye raschety v mashinostroenii. Moskva, Gos. nauch-
no-tekhn. izd-vo mashinostroit. lit-ry. Vol. 1. no.1. 1947. 548 p.
(Mechanical engineering)

(MLRA 8:1)

AIMS
ARTOBOLYUKI, I. I.

11-11-66 (11-11-66)
Statics, Kinematics

1968. Artobolyuk, I. I. A new method for the determination of dynamic stresses (in Russian). *Troft. Arm. Ser. Mash. Mekh.* 1, 48-55, 1967.

Author first derived the formula

$$\sigma_{\max}/\sigma = 22(\cos \alpha + \mu \sin \alpha)$$

where σ is the constant angular speed of the driving member, $J_{\text{rot}}/2$ the kinetic energy of the machine, σ and α the spiral and tangential acceleration of the mass center of a link, μ and α its angular velocity and acceleration, and m , I the mass and central moment of inertia. Then he suggests a certain correction for the case of variable σ , which is based on the extreme values of σ and I . He argues that his method is superior to the graphical ones of Wittebauer, Mortanlov, and Haidinger.

A. W. Woodhull, USA

AN. VEBULAYDKII, I. I.

"Achievements of Soviet Science in the Development of the Theory of Structure of Mechanisms," in the book Anniversary Symposium Dedicated to the Thirtieth Anniversary of the Great October Socialist Revolution (Yubileynyy sbornik, posvyashchenny tridtsatiletiyu Velikoy Oktyabr'skoy sotsialisticheskoy revolyutsii), Part 2, Moscow-Leningrad, 1947.

"Kinematics of Mechanisms," Vestnik Mashinostroye, No. 11, 1947.

The success of the Soviet theory of mechanism and machinery; stenographic report of a public lecture given in Moscow on January 8, 1948. 19 v. (40-25891) TJ155.A7 RPB

1. Mechanical engineering- Addresses, essays, lectures.

... concerning the
... 1949,

Diagrams (attached)

... covered one of the most obvious quadrants...
... the paper pertains
... at the ...

Механизмы; пособие для инженеров, конструкторов и изобретателей. 2-е изд., испр. Москва, АИ ИСХ. 1948. 2-е изд. библиографы: т. 1, с. 103; т. 2, с. 398.

(Mechanisms; manual for engineers, designers and inventors.) DLC: FJ250.A7

ARTOBOLVSKY, I. I.

IA 10/4/57

Mechanics
Mechanisms

"Review of H. G. Kravtchik's Book, 'The Accuracy of Mechanisms,'" Acad I. I. Artobolevskiy, 2 pp

"Vest Ak Nauch SSSR" No 4

Favorably reviews subject book, which is divided into two parts, first dealing with fundamentals in the theory of errors in positions and displacements of mechanisms, and second with various practical mechanisms (errors in position of cam mechanisms, errors in position of simplest plane-gear mechanisms, etc.).

ARTOBOLEVSKIY, I.I.

Artobolevskiy, I.I., Konstantin, V.T., and Rayevskiy, N.P. "On one condition of a shaft rotating on greaseless bearings with free play," Transactions of the seminar on machine and mechanic theory (Akad. nauk. SSSR, In-t Mashinovedeniya), Vol V., No. 9, 1948, p. 5-21

SO: U-2883, Letopis Zhurnal'nykh Statey, No. 1, 1949

USSR/Engineering

Mechanics

Mathematics, Applied

Oct 48

"Problem of the Motion of Machines Under the Action of Given Forces," Acad I. I. Arshelavskiy, B. N. Abramov, Inst Mech Studies, Acad Sci USSR, 54 99

*In Ak Nauk SSSR, Otdel Tekh Nauk No 10

General equation of motion of a machine or mechanism with one degree of freedom can be written as follows:

$$M_D - M_S = J_P \frac{d\omega}{dt} + \frac{\omega^2}{2} \frac{dJ_P}{d\phi}$$

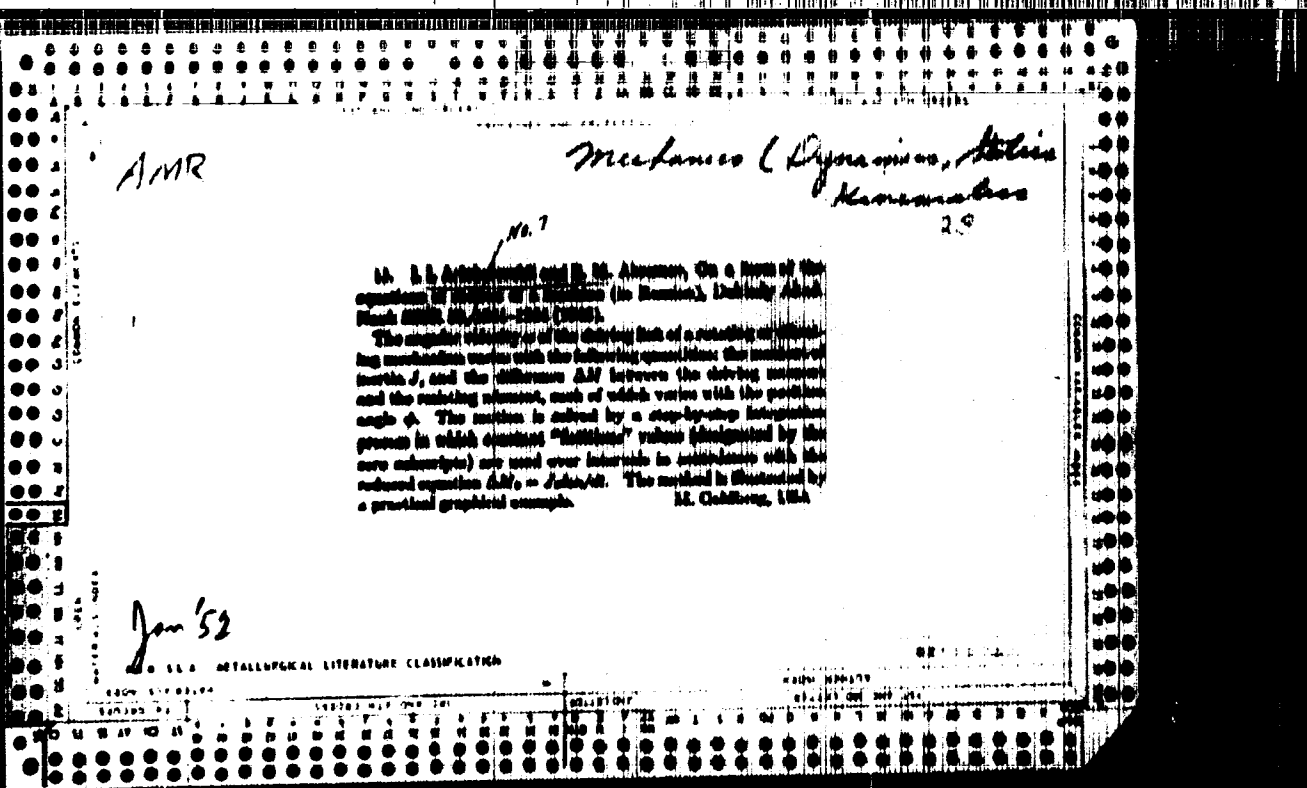
21/Agw29

USSR/Engineering (Contd)

Oct 48

where M_D = moment of reduced motive forces,
 M_S = moment of reduced resistance forces,
 J_P = reduced moment of inertia of mechanism, and ϕ = angle of revolution of reduction link. Solution presents difficulties in many cases, especially when the moments M_D and M_S depend, not only on the angle of revolution ϕ , but also on other variables. Explains method for overcoming such difficulties. Submitted 8 Jul 48.

21/Agw29



AMR

Mechanics (Dynamics,
Statics, Kinematics)
23

1286. I. I. Arshinkov and B. M. Abramov, "Solution of the equation of motion of a machine in space depending on velocity" (in Russian), *Notes Acad. Sci. USSR (Doklady Akad. Nauk SSSR)*, Mar. 1955, vol. 52, no. 9, pp. 1541-1544.

A method of approximations regarding the plotting of a number of graphs to determine the time variation of the angular velocity of a linkage is given. No mention of a machine is made.
John M. Koppes, USA

NOV 49

ASB-566 METALLURGICAL LITERATURE CLASSIFICATION

1286J 447 007 504

1286J 447 007 504

сестры под
Ваня В. П.
Полтаво,
название по
название под
В. П. В. П.
и т. д.

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28

B

Concerning the Case of a Shaft, Rotating in a Bearing Without Lubrication but With Clearance. (In Russian.)
 I. I. Artobolevskii, V. T. Kostitsyn, and N. P. Ruvinskii. *Izvestiya Akademii Nauk, Otdelenie Tekhnicheskikh Nauk* (Bulletin of the Academy of Sciences of the USSR, Section of Technical Sciences), Feb 1949, p. 168-173.

Presents results of experimental and theoretical investigation of the above. Method of investigation, which includes the use of a recording oscillograph, is described. Calculation of the coefficient of friction and angular velocity is described.

455-51A METALLURGICAL LITERATURE CLASSIFICATION

455-51A METALLURGICAL LITERATURE CLASSIFICATION

Academy of Sciences - Mathematics
Engineering Sciences - Mechanics

In the Department of Technical Sciences, Academy
of Sciences USSR 2 pp

Dr. Emil SERN, Cit. 101 Tikh Zavr. No. 6

In his knowledge and I. I. Kholodovskiy submitted
reports on activities of the Inst of Precise Mech
and Calculating Techniques. Institute has prepared
a number of works for instruction and practical
checking, including electrical integrators, calculat-
ing tables, and methods to solve mathematical problems
of the analytical computing machines. Inst of Mech

22/1952

Academy of Sciences - Mathematics Jun 19
(Contd)

Dr. A. A. Mayor is prepared to introduce a new
method and instrument for control of mechanical
systems.

22/1952

Applied Mechanics
Review

Mechanics (Dynamics, Statics, Strength)

23

and I. I. Arshavskii, Mechanisms for enveloping ellipses
in Russian, Tekhnicheskii Nauchnyi Zhurnal, no. 1, 1951 (no
date 1950)

The paper considers the following linkage: C and C' are fixed
points, AC and $A'C'$ are two rigid bars, B and D are two cranks
heads, BCD is a right angle. It is shown that the perpendiculars
 BE (to BC') and DE (to DC') are always tangent to the same
ellipse.

Three more similar mechanisms are described. A fifth one con-
tains two straight bars enveloping two confocal ellipses. Parabolas
and hyperbolas can be similarly enveloped.

A. W. Wundtler, USA

1950

APPROVED FOR RELEASE, I.I.

VAN 1/50

"Socialistic Machine building and the Contributions of Soviet Science to Its Development
With Ye. A. Chudakov, report to Gen Assembly, AN, 1949.

АВТОМАТИЗМ, Г. Г., АПОСТОЛОВА, Г. Г., ЮРИН, В. А. и др. Автоматизация, Г. А.

"Methods for Analyzing Automatic Machines, Part II, Kinematic and Kinetostatic Analysis,"
Izv. Ak. Nauk SSSR, Otdel. Tekh. Nauk, No. 3, 1950, pp 451-476.

Artobolevskii, I. I.

The outstanding Soviet scientist and political figure, Sergei Ivanovich Vavilov, (Vydaishchisia sovetskii uchenyi i obshchestvennyi deiatel' Sergei Ivanovich Vavilov.) h6 p.

Moscow

(Pravda)

1951

Available: Department of State Library
Library of Congress

Source: Monthly List of Russian Accessions
Vol. 4, No. 9, p. 567

BRIDGEMAN, J.

✓ QM12. Artobolevskii, I. I., Zin'ev, V. A., and ~~Goldberg~~
B. Y. Collection of problems on the theory of mechanisms and
machines (Sbornik zadach po teorii mekhanizmov i mashin), 2nd ed.,
MN Moscow, Gos. Izdat. Tekh.-Teor. Lit., 1951, 195 pp., 4.40 rubles.

Many recent Russian textbooks on mechanisms do not include
problems suitable for the engineering student. The present
work fulfills this need. Answers are given to the back of the book
and, depending upon the demands of the problem, are qualitative,
numerical, or graphical. The arrangement is by title, following
the works of the senior author. Each set of problems is preceded
by a brief discussion of the general principles. The following
topics suggest the scope of the work: kinematic pairs, transmission

of mechanisms, classification, degrees of freedom, trajectories,
velocity and acceleration diagrams, cam-follower, toothed mecha-
nisms, design of mechanisms and cams, frames, friction, balancing
of rotating mechanisms.

M. Goldberg, CIRA

8/11
TWT
(2)

Mathematical Review
June 1954
Mechanics

*Arbuzovskii, L. L. Theory of mechanisms and machines. [The theory of mechanisms and machines.] 2d ed. Gosudarstv. Izdat. Tehn.-Teor. Lit., Moscow-Leningrad, 1951. 704 pp. 15.75 rubles.

This new edition of a 1945 textbook has been made necessary, according to the preface, by the progress in Soviet science, by new ideological directives of the party and the government, and by Stalin's "brilliant essay on Marxism and the questions of linguistics." In the selection of the topics the book shows preferences similar to those encountered in other recent Russian books in the same field. [Dobrovolskii, Theory of mechanisms, Gostekhizdat, Moscow, 1951; These Rev. 13, 905; Kolesnikov, Theory of mechanisms and machines, Moscow, 1949; These Rev. 13, 135]. Favored are structure and classification of mechanism, four-bar linkages, spur gears, and dynamics of machinery. Casual treatment is accorded to plane kinematics, linkage design (in spite of the recent and important Russian contributions), and spatial kinematics; in some cases the allotment of space to details has been influenced by the urge to present some recent Russian work (including that of the author).

The treatment of credits may be of some interest. Every effort has been made to connect old results, no matter how minor and how identified usually, with Russian names. The name index of 107 entries contains only eight Western

ARTobolevskii;
I. I.

2/4 12
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names (Leonardo da Vinci, Bernoulli, Euler, Wittenbauer, etc., but not Reuleaux, Burmester, or Watt). Euler is invariably referred to as "a Russian academician". A component of mechanisms credited by Assur to Sylvester is credited to Assur. Moreover, these mentions of foreign scholars refer to historical surveys (of which there are three in the book). In the cases where the names are mentioned in connection with theorems (Euler-Savary, Roberts, Sylvester), the page is not shown in the name index (exception: Peaucellier, p. 53). There is no mention of Watt's mechanism, or of the Burmester design method (although it was fully presented by the author, Il'ch, and Debrovskii in Design of mechanisms, Costel'izat, Moscow-Leningrad 19... these Rev. 13, 788]. The Russian credits are also erratic. Although the names of Levitskii and Dimentberg are mentioned, this happens only enumeratively in the three surveys of Russian achievements. The important approximate design method of Levitskii is given two pages, and the trail-blazing work of Dimentberg on spatial linkages is not presented at all.

Turning to technical matters, this review will concentrate on the section devoted to structure and classification of mechanisms, a problem of strange fascination to Russian writers. First of all, let us submit that the problem has no applied significance: if a mechanism has enough members to make its structure not obvious, its performance (i.e.,