"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

[illegible]

[illegible], V.

Gelikopter. Moskva, 1949.
Microfilm copy made in 19[illegible]2 by L. C. Negative.
Collation of the original: 3[illegible] p. illus.
Title tr.: The helicopter.

Microfilm T-2
(Slavic Room)

SS: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1[illegible].

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHEVSKIY, Vladimir Borisovich; POZDNYCHEV, A.V., redaktor; ZHURAVLEV, A.S., tekhnicheskiy redaktor

[The helicopter in flight] Vertolet v polete. Moskva, Izd-vo Dosaaf, 1954. 85 p.
(Helicopters) (MLRA 8:4)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

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S/084/60/000/008/004/005
A104/A029

AUTHOR: Barshevskiy, V

TITLE: Helicopter Rotor Flutter

PERIODICAL: Grazhdanskaya Aviatsiya, 1960 vol 17 No. 8, pp. 29 - 31

TEXT: The author discusses various causes and ways of prevention of helicopter rotor flutter, which occurs at supercritical speed and is accompanied by a fast increase of oscillation amplitude. Flutter signal begins when a certain number of revolutions M relative to speed V is reached. The dependence of the critical revolutions on speed and the flutter limit and the influence of lateral balancing are pointed out. Further factors are the load setting and fly wheel motion. "Critical revolutions" means a coordination of propeller revolutions and flying speed which cause flutter signal. Temperature variations influence the viscosity of the hub lubricant, this alters friction and consequently also the critical revolutions of beginning flutter. A change of lubricant can have the same effect. A considerable increase of critical revolutions at low temperatures was noticed i.e. approximately by 15 rpm per each 1°C. Rigid controls, absence of backlashes, proper load distribution, etc., can prevent flutter or at least increase the

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85310

Helicopter Rotor Flutter

S/084/60/000/008/004/005
A104/A029

number of its critical revolutions. A rotor is considered serviceable if it has adequate flutter reserve and its determination was the object of tests briefly described in this article. As air tests are not always practicable a further purpose was the establishment of a reliable ground test method. Eventually such a method was developed and helicopter flutter tests are now performed in the plant and all unsuitable rotors are immediately discarded. There are 5 figures.

Card 2/2

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

RUBENCHIK, L.I.; BARSHOVA, O.I.; ZINOV'YEVA, Kh.G.

Interrelations between Azotobacter ans some soil bacteria. Report no.1. Mikrobiol.zhur. 9 no.4:3-10 '48. (MLRA 9:9)

1. Iz otdela pochvennykh mikroorganizmov (zav. otdelom - L.I.Rubenchik) Instituta mikrobiologii imeni akademika D.K.Zabolotnogo Akademii nauk USSR.

(AZOTOBACTER) (SOILS--BACTERIOLOGY)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTAK, N.M.; BYKOVA, Z.Ya.; KLUGMAN, I.Yu.; KNYAZHITSKIY, I.I.; BASHKOVICH, M.P.

Induction dividing mechanisms. Stan. i instr. 27 no.11:7-8 N '56. (Dividing engine) (MLRA 10:1)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

SOV/115-58-1-6/50

AUTHORS: ~~Barshtak, N.M.~~, Bykova, Z.Ya., Klugman, I.Ya., Knyazhitskiy, I.I., and Rashkovich, M.P.

TITLE: An Integral Method of Dividing Circles (Integral'nyy metod deleniya okruzhnosti)

PERIODICAL: Izmeritel'naya Tekhnika, 1958, Nr 1, pp 16 - 17 (USSR)

ABSTRACT: The article describes a method and mechanism for precise graduating. The mechanism is actuated by electric inductance. It consists of a toothed fixed core and a toothed rotating ring (Fig. 2), each core tooth carrying an inductance coil. All coils are connected between themselves and into a phase-sensitive circuit (Fig. 3). The inductance of the indicator changes with the changing gap between the teeth on the core and on the ring when the ring rotates. The auxiliary inductance automatically returns the circuit indicator back to zero position. The mechanism is called "integral" because the inductance of the indicator equals the summary inductance of the coils. As the parts of the mechanism operate without contact, they require no precision machining. The method has been tested on a experimental "integral" device for dividing a circle into 360 parts. Even with this

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An Integral Method of Dividing Circles SOV/115-58-1-6/50

experimental device which was rather inaccurately-made and had a pitch error of about 4 min, the reading error was 60 times smaller, than the mechanical production error of the parts of the measuring device. The inductance mechanism is simple and can be produced on gear shapers. There are 3 diagrams.

1. Machine tools--Design 2. Machine tools--Performance
3. Machine tools--Test results

Card 2/2

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

S/121/61/000/009/003/006
D040/D113

AUTHORS: Barshtak, N. M., and Shikhel'man, Kh. L.

TITLE: Production of precision machine tools at the Odessa im. S. M. Kirov Plant

PERIODICAL: Stanki i instrument, no. 9, 1961, 27-30

TEXT: General information is given on new design features of machine tools produced by the Odesskiy zavod im. S. M. Kirova (Odessa Plant imeni S. M. Kirov), and several machines are described. A universal 675-machine produced since 1959-1960 is designed for milling, drilling, boring and slotting. It is said to be free of the deficiencies of the former 678M (678M)-machine. Its horizontal spindle is mounted in precision bearings the table feed control mechanism is in the slide, the table is mounted on knife-edge ways, the spindle is made reversible and permits the use of right and left hand mills and drills. It has 16 spindle speeds and 16 feeds. The speed and feed selection mechanisms were previously described (Ref. 1: Moldavskiy, M. Kh., "Stanki i instrument" no. 11, 1959). Technical specification of the 675 and 676 models is given. The 676 has larger dimensions. Inductive

Card 1/4

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

adjustment systems for co-ordinate jig borers and other machines are improved, the maximum adjustment error being 0.003 mm. Detailed description is given of an "armored pickup" (Fig. 1), a precision induction pickup consisting of two halves (Δ_1 and Δ_2) on a threaded armature (3) and two pole ends connected with a yoke and provided with an internal thread. The pickup moves along the armature-screw together with the machine table without contacting the screw. Each pickup half is magnetized by coils (1) on the pole ends. The coils are connected in series, and magnetic flux of both is directed to one side. The relative position of the pickup-halves and the screw determines their inductive resistance, which is recorded by electric measuring instruments. The gap of maximum 0.3 mm between the armature-screw and the pickup reduces the effect of the screw vibration on measurements to a minimum; the 0.001-mm-displacement of the pickup produces a 1.5 mm indicator hand turn on the microammeter dial. The pickup design is being further improved. Several new program-controlled machines have been completed. Simplification of the programmer system includes electric inductive and analog systems without quick-action computing elements. An OF-46 (OF-16) program-controlled co-ordinate jig borer will have an analog programming system including a punched tape and a set of switches. Still produced machine

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

tools of old design are being automated and fitted with programming systems. A new contactless bore diameter measuring system is used in the honing process (Ref. 2: Zbarskiy, Yu. Sh., and Krasnyanskiy, A. S., "Stanki i instrument", no. 7, 1961). Its simple principle is based on an accurate repetition of the diameter by the abrasive honing blocks being thrust to the bore surface at constant pressure. This device has passed tests and is now used on new Оф-38 (OF-38) and Оф-42 (OF-42) automatic honing machines. The high-productive OF-42 can be used in transfer lines. Ultrasonic cleaning from abrasive dust is employed for parts of high-precision machine tool parts finished by lapping. The plant's laboratory jointly with ENIMS has found an unidentified special oil for the ways that ensures slow motion of machine elements without jerks. The oil is currently being produced at domestic production center. Semiconductor thermistors are used in new machines to reduce machining inaccuracies caused by thermal expansion of machine elements. There are 7 figures and 2 references.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTAK, M.M.; SHIKHEL'MAN, Kh.L.

Design of high-precision machine tools at the Odessa Machine-Tool Plant. Stan.i instr. 32 no.9:27-30 S '61. (MIRA 14:8)

(Odessa--Machine-tool industry)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTAK, V M

Glazes without lead for terra cotta. V. M. Barshtak. *Keram. i Stekło* 9, No. 7, 26-7(1933).—See *C. A.* 28, 8719, where the author's name was incorrectly given C. C. Berman. E. J. C.

METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

GOL'VERK, P.G.; BARSHTAK, Ye.M.

Rodless welding of vinyl plastics. Khim.prom. no.8:483-484 D '55. (MLRA 9:5)

(Plastics--Welding)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

112-2-3653

Translation from: Referativnyy Zhurnal, Elektrotekhnika, 1957, Nr 2, p. 165 (USSR)

AUTHOR: Anbinder, A. D., Barshteyn, I. I.

TITLE: Electro-vibratory Building-up Metal (Elektrovibratsionnaya naplavka metalla)

PERIODICAL: Tekhnol. transp. mashinostroyeniya, 1955, Nr 3, pp. 38-41

ABSTRACT: The essentials of a method based on Engineer Klekovkin's method for the electro-vibratory build-up in an electrolyte stream are explained. The results of research on the structure and hardness of the built-up layers are given. Contrary to Klekovkin's recommendations, the conclusion is drawn that it is impractical to use a rotating wire during welding. This is confirmed by a comparison of the research data on the resistance to shearing stress of layers built up with the aid of a rotating wire, and without it. The following operating conditions are recommended: support feed equal to 0.6 to 0.8 of the wire diameter; when building up steel, a.c. and d.c. current of 9 to 11 volts, and of 7 to 9 volts

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112-2-3653

Electro-vibratory Building-up Metal (Cont.)

for cast iron; 120 to 300 amperes are required. A report on experience in applying the method at the Kirov Plant at Chelyabinsk is made. Examples of the technical and economic results realized by using this method in repair and maintenance work at the plant are given.

A.I.K.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

19

Development of Combustion of Fuel in "Compartments." (In Russian) I. K. Barshtein and M. J. Pollyak. *Kotloturbostroenie* (Boiler and Turbine Manufacture), Oct. 1947, p. 18-23.

Analyzes above development and indicates possibilities for further improvement. Basic principles are explained and a series of applications of such furnaces with preliminary combustion of powdered coal are indicated. Includes diagrams.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

F BARSTEYN, I.K.

M

1179. DEVELOPMENT OF COMBUSTION CHAMBERS. Barstein, I. K. and Pollak, M. I. (Kotloturbostroyenie (Boiler and Turbine Design), 1947, (5), 18-23).

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

PA 37/49T30

USSR/Engineering Sep/Oct 48
Boilers
Coal, Pulverized

"Pulverized Burning High-Moisture Fuels," I. K. Barshteyn, Cand Tech Sci, Cen Sci Res Boiler and Turbine Inst imeni I. I. Polzunov, 7 pp

"Kotloturbostroy" No 5

Analyzes effect of moisture in fuel upon the combustion process and heat transmission on radiation and convection heating surfaces of boiler installations. Demonstrates feasibility of changing over to open systems of pulverized coal preparation when burning

[redacted]

37/49T30

USSR/Engineering (Contd) Sep/Oct 48

moist pulverized fuel in large boilers. Discusses open system with ball mills in detail, with fifteen sketches.

BARSHTEYN, I. K.

[redacted]

37/49T30

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

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M

[illegible] (Zh. Khon. Toplin. [illegible]), [illegible] account is given of the first [illegible] hours running [illegible] 75 tons of steam per hour on a low grade shale containing [illegible] moisture and [illegible] carbonates. (L).

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

KANAYEV, A.A., kandidat tekhnicheskikh nauk, redaktor; BARSHTEYN, I.K., kandidat tekhnicheskikh nauk, nauchny redaktor; PETROV, F.I., zavednyushchiy redaktsiyey, inzhener; DLUGOKANSKAYA, Ye.A., tekhnicheskiy redaktor.

Computation and design standards for coal pulverizing machinery. [Trudy] TsKTI 24:3-275 '52. (MLRA 8:2)
(Coal, Pulverized)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

SHERSHNEV, A.A., laureat Stalinskoy premii, kandidat tekhnicheskikh nauk; POMERANTSEV, V.V., kandidat tekhnicheskikh nauk, retsenzent; BARSHTEYN, I.K., kandidat tekhnicheskikh nauk, redaktor.

[Pneumatic furnaces for low-capacity boilers] Pnevmaticheskie topki TsKTI sistemy Shershneva dlia kotlov maloi moshchnosti. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1954. 101 p. (MLRA 7:6)

(Furnaces)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

KAZARNOVSKIY, Ye.M.; BARSHTEYN, I.K.; redaktor; ZABRODINA, A.A., tekhnicheskiy redaktor.

[Regulation of superheated steam in high pressure steam boilers] Regulirovanie temperatury peregretogo para v moshchnykh parovykh kotlakh. Izd. 2., perer. i dop. Moskva, Gos. energ. izd-vo, 1954. 153 p. (MLRA 7:8)

(Steam boilers) (Steam, Superheated)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN, I.K.

2

V 2427. COMBUSTION OF (PULVERIZED) UKRAINIAN BROWN COALS IN THE TsKTI OPEN SYSTEM. Barshtein, I.K., Kendys, P.N. and Burgvits, O.A. (Moscow: Mashgiz, 1954, "Furnace Installations (Topochnye Ustroistva)", Ed. A.A. Kanaev, TsKTI book 26, 256pp., 3-33). The system is described with diagrams and drawings and successful trials in power station boilers are recorded for fuel containing up to 40% moisture. The fuel is dried by direct contact with flue gases in the pulverizer, then separated from them, stored in a bunker and fed to the burners with heated air. (B2484/02).

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN, I.K.

V 2149. SOME NEW TEST DATA ON SHAFT PULVERIZERS. Barshtein, I.K. (Moscow: Mashgiz, 1954, "Furnace Installations (Topochnye Ustroistva)," Ed. A.A. Karnov, TsKTI book 26, 256pp., 162-188). Data are given on the FJ Soviet 730/1660/2004 hammer mill with shaft over, with a rotor 2004 mm in diameter by 1660 mm long running at 730 rev/min, including the effects of wear, speed variations etc. It is satisfactory for Moscow Region brown coal but uneconomical for milled peat. (B2484/02).

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN, I.K.

2421. INITIAL TESTS AND INVESTIGATION OF TsKTI-LENERGO CYCLONE FURNACE DEVISED BY A.N. KOVRIGIN. Barshtein, I.K., Kovrigin, A.N. and Men'shchikov, V.P. (Moscow: Mashgiz, 1954, "Furnace Installations (Topochnye Ustroistva)", Ed. A.A. Kanaev, TsKTI book 26, 256pp., 34-75). A full account is given of experimental work which started in December 1950 in a Leningrad power station. Two cyclone chambers, connected in series by a spiral passage, were fitted approximately horizontally outside a side wall of the unscreened furnace of a Babcock and Wilcox boiler originally designed for oil or gas firing. The second chamber discharged into the original combustion chamber of the boiler. The two chambers and the connecting passage were formed of water tubes studded with steel pins, covered with chromite refractory and enclosed in a steel shell. The first and second chambers were 2.07 and 2.87 m long and 1.48 m in diameter. The first chamber had four tangential slots for primary air along its length at the top and either a central turbulent burner in the end or a tangential burner in the first primary air slot. Stable combustion was obtained with fine coal up to 5 mm fed with primary air to the central burner or with pulverized coal similarly fed to the tangential burner. The outlet from the first chamber was through a throat in the shape of an inwardly facing cone whose internal diameter was 0.987 and 0.787 m in different series of experiments. The chief trouble was melting of the refractory lining of the cyclone chambers owing to the water tubes being spaced too widely. This type of furnace is recommended for new plant and for suitable existing boilers. Drawings are shown of a 230 tons/h TP 230-1 boiler to be installed in 1954 in a Donbass power station, to burn coal preparation refuse in four

(OVER)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

A.N. KOYRIEIN

approximately horizontal cyclone chambers functioning in parallel. 2/2
(22484/02).

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

SYROMYATNIKOV, Valentin Matveyevich; KISELEV, Pavel Lavrovich; BARSHTEYN, I.K., redaktor; VORONIN, K.P., tekhnicheskiy redaktor.

[Steam superheaters of stationary medium and high-pressure steam boilers] Paroperegrevateli statsionarnykh parovykh kotlov srednego i vysokogo davleniia. Moskva, Gos.energ. izd-vo, 1955. 160 p.
(Boilers) (Superheaters) (MLRA 9:4)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN, I. K.

AID P - 2552

Subject : USSR/Engineering

Card 1/1 Pub. 110-a - 4/13

Author : Barshteyn, I. K., Kand. Tech. Sci.

Title : Improving unit pulverized fuel-fired stokers

Periodical : Teploenergetika, 6, 18-24, Je 1955

Abstract : A short review of the development and use of pulverized fuel stokers operating on brown coal, shale and peat is given. An analysis of defects in their design is made. Possible improvements in the design are discussed. Some recommendations for efficient operation are made.

Institution: Central Turbine-Boiler Institute

Submitted : No date

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

AID P - 3334

Subject : USSR/Power Engineering

Card 1/1 Pub. 26 - 20/28

Authors : Barshteyn, I. K. and Rubin, M. M., Kand. Tech. Sci.

Title : Mounting of centrifugal collectors in the superheater of a TP-230-1 boiler

Periodical : Elek. sta., 8, 49-52, Ag 1955

Abstract : The authors discuss the decrease in temperature and distribution of steam leaving the superheater and state that a more uniform distribution of steam temperatures is achieved in boilers equipped with turbulent burners. The use of centrifugal collectors is strongly emphasized. Curves show temperature distribution in waterwalls and in the boiler and data on superheater operation. Nine diagrams.

Institution : None

Submitted : No date

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

AID P - 4079

Subject : USSR/Power Eng.

Card 1/1 Pub. 110-a - 4/14

Authors : Barshteyn, I. K., Kand. Tech. Sci. and V. R. Terenkal', Eng. Central Boiler and Turbine Institute

Title : The 730/1300/2564 centrifugal pulverized coal mill and its grinding properties.

Periodical : Teploenergetika, 12, 22-28, D 1955

Abstract : The performance of a new type of mill is analyzed in detail. The design and operation of this mill are explained. Certain advantages such as operational speed, low supply of current needed, more efficient ventilation system, and the longer wear of parts are emphasized.

Institution : None

Submitted : No date

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN, I.K., kandidat tekhnicheskikh nauk; RUBIN, M.M., kandidat tekhnicheskikh nauk.

Operating characteristics for shaft pulverizer furnace with cyclone burners. Energomashinostroenie no.9:1-5 S '56. (MLRA 9:10)

(Furnaces) (Combustion)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN, I.K., kandidat tekhnicheskikh nauk; RUBIN, M.M., kandidat tekhnicheskikh nauk.

Adjustment of shaft-mill furnaces with overfire-air ports. Elek.sta. 27 no.3:7-12 Mr '56. (MLRA 9:8)

(Boilers)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN, I. K.

1809. ADJUSTMENT AND STUDY OF TP-230-5 BOILER PLANTS WITH LIQUID SLAG REMOVAL. Barshtein, I.K., et al. (Elekt. Sta. (Mar Sta., Moscow), Oct. 1956, vol. 27, 4-12). An illustrated description, a year's test results, and modifications, are given for a Soviet boiler designed to produce 230 tons/h of steam at 110 atm and 510°C but having the dimensions of an existing type producing 170 tons/h. It was designed to burn pulverized middlings from Donbass coal preparation plant, but owing to admixtures of gas coals the fuel properties varied within the following limits: ash 24 to 38.9%, moisture 5.5 to 10.9%, net calorific value 3,874 to 5,414 cal/g, and volatile matter 22.9 to 35%. (L).

Fuel

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

310

AUTHOR: Barshteyn, I.A., Candidate of Technical Sciences, and Belinskiy, I.E., Engineer.

TITLE: Experience of burning high moisture content brown coals in a boiler installation equipped with pulverising fans. (Opyt szhiganiya vysokovlazhnykh ugley v kotel'noy ustanovke oborudovannoy melyushchimi ventilyatorami.)

PERIODICAL: "Energomashinostroenie", (Power Machinery Construction), 1957, No. 5, pp. 10 - 14, (U.S.S.R.)
VOL.3

ABSTRACT: This article describes the results of tests on a boiler equipped with a pulverised fuel preparation system including pulverising fans developed by the Central Boiler and Turbine Institute. The equipment is in the KRES Power Station (Kiev Regional Power Station?). Boiler No. 4 of the KRES station manufactured by the "Rota" Company was reconstructed and has a designed steam output of 40 tons per hour with a drum pressure of 31 atm and a super-heated steam temperature of 400 °C. The heating surface of the boiler is 462 m^2, of the super-heater 182 m^2, of the water economiser 492 m^2 and of the air heater 2 240 m^2. Other furnace data are also given. The pulverised fuel preparation system consists of three independent dust systems with pulverising fans. Coal from a bunker is delivered to drying shafts by drum-scraper feeders. In the drying shafts the fuel receives preliminary drying by gases drawn from the furnace because of suction set up by the pulverising fans. From the drying shafts the gas-fuel flow

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Experience of burning high moisture content brown coals in a boiler installation equipped with pulverising fans. (Cont.)

passes through the pulverising fans in which the fuel is pulverised and is intensively dried. It then passes to the burners. The pulverising fans have a rotor of 1 050 mm diameter with a blade width of 400 mm and height of 200 mm. The fan is driven at 1 460 r.p.m. by a 115 kW motor.

The main fuel of the power station is Aleksandriysk brown coal produced by opencast working. The coal contains a high proportion of fines and a comparatively small quantity of large pieces and is low mechanical strength. The ash content varies from 22 - 38%, the moisture content from 50 - 56% and the calorific value is 1 500 - 2 000 kcal/kg. The ash is of high temperature characteristic.

Operational observations and tests made during initial setting-up reveal the following special features of operation: Ukrainian brown coals cause difficulties in the fuel supply lines only under winter conditions. When the frost is hard, the coal freezes in the stacks and the upper layer of fuel has to be broken up by hand. There being no crushers the large lumps of frozen fuel are troublesome and delivery of coal to the pulverising fans is uneven. The magnetic metal separator did not operate well so that damage was caused to the pulverising fans. As the blades of the pulverising fans did not last long, and the rotors frequently became unbalanced, the Central Boiler and Turbine Institute has recently re-designed

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Experience of burning high moisture content brown coals in a boiler installation equipped with pulverising fans. (Cont.)

required to move it. Although the scraper-drum feeder generally operated satisfactorily the absence of preliminary crushing of the coal greatly interfered with its normal operation. When pulverising fans are used the need for crushing should be carefully considered. The gas dampers on the front wall of the furnace did not work well. The short distance between the gas intake apertures (from the furnace to the drying shaft) and the burners, which was about 2.5 m causes the temperature of the tapped-off gases to vary widely depending on the operating conditions of the boiler. A graph is given showing that this temperature can range from about 800 to 1 100 °C. Therefore, the gas intakes should be located in the upper part of the furnace at a sufficient height above the burners. The horizontal gas pipes from the front of the furnace to the drying shafts are constantly clogged with ash and slag and require frequent cleaning. Appropriate arrangements should be made to prevent this.

Balancing tests were carried out when burning normal Aleksandriysk coal and also coal of lower quality with increased ash content and reduced calorific value. During the tests the fuel properties varied within the limits of: water- 48.9 - 56.7%; ash 13.0 - 18%; calorific value 1 390 - 1 829 kcal/kg. The quantity of hot air passed to the drying shafts was 20 - 25% of the total air consumption of

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experience of burning high moisture content brown coals in a boiler installation equipped with [illegible] fans. (Cont.)

the furnace. The tests confirmed the possibility of ensuring reliable and economic combustion of the coal. With the high ash coal the burner flame commenced rather a long way from the embrasure but combustion remained steady. A graph is given of the thermal losses and efficiency of the boiler as a function of the steam load and it is shown that the efficiency is practically independent of the load. There were large leakages of air into the furnaces, mainly through the fuel feeders because of leaks in the gas ducts from the furnace to the drying shafts near the slag funnels and at places where the screen tubes pass through the lining. With a steam load of 40 t/h the temperature of the outgoing gases is only 185 °C. However, because of the high moisture content of the fuel the heat loss with the outgoing gases was considerable and ranged from 12 - 16%. When burning normal fuel there was no loss of heat because of chemically incomplete combustion but with the low quality coal this loss was from 0.4 - 1.4% even with considerable excess air. A graph is plotted of the electric power consumption related to a ton of steam against boiler output and with an output of 40 t/h it is 8.5 kWh/ton. It is concluded that in addition to giving reliable combustion of Aleksandriysk coal the installation equipped with

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Experience of burning high moisture content brown coals in a boiler installation equipped with pulverising fans. (Cont.)

the fan construction. The milling parts have been considerably strengthened and made of wear-resistant materials, and protective linings on the milling blades can be replaced without withdrawing the rotor. Operating experience and tests on the boiler under different conditions show that stable combustion of Aleksandriysk brown coal with a moisture content of up to 33% is achieved even in winter conditions and without a crusher. Combustion was stable even at loads of 40 - 50% with only one pulverising fan in operation. During operation it was never necessary to light the fuel oil burners and there were no enforced stoppages because of fuel supply or combustion difficulties. Very little slag was formed in the furnace. Experiments which were carried out confirmed the advisability of supplying hot air to the drying shafts with a somewhat increased oxygen content compared with the furnace gases. It was also found that losses due to incomplete combustion are very dependent on the excess air factor; the results are plotted on a graph.

In new designs account should be taken of the following defects that appeared in various parts of the equipment: If the bunkers are filled to more than a third of their capacity the coal is not delivered continuously. The coal shutter of the damper type is inconvenient because great force is

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pulverising fans is of comparatively high economy. At rated load, the efficiency of the boiler is 97%. The gross efficiency of the boiler set when burning coal of normal quality at the rated load on the boiler is 82.5% and the nett efficiency with two milling systems working is 77%. The positive results of burning high moisture content brown coal in a furnace equipped with pulverising fans makes it possible to recommend wide application of these installations on small and medium sized boilers. The limiting value of the relative moisture content of coal that can be burnt reliably and with efficient economy in these installations is up to 36%. Work on the improvement of pulverising fans should be continued.

7 figures, no literature references.

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BARSHTEYN, I. K.

114-11-3/10

AUTHOR: Barshteyn, I.K., Candidate of Technical Sciences.

TITLE: Achievements and Prospective Developments of Boiler Manufacture in the USSR. (Dostizheniya i perspektivy razvitiya kotlostroyeniya v SSSR)

PERIODICAL: Energomashinostroyeniye, 1957, Vol.3, No.11, pp. 12-15 (USSR)

ABSTRACT: The first part of the article is a general historical review of boiler manufacture in the USSR. The tendency up to 1941 was to improve and reduce the weight of boilers and successive transition from boilers with four drums to three and two drums or even one. An important step was the manufacture at Taganrog of a transportable boiler of three tons per hour output. In 1933, the first direct flow Ramzin type boiler was built with an output of 200 t/h and a pressure of 140 atm.

The war did great damage to the industry. However, boiler manufacture was recommenced even before the end of the war. Besides the Biysk Boiler Works (Biyskiy Kotel'nyy Zavod), which produced low-power boilers, the Podol'sk Works (Podol'skiy Zavod) imeni Ordzhonikidze in 1943-1944 mastered the production of drum-type boilers with outputs of 200 t/h and also Ramzin boilers of 230 t/h at 100 atm. and 500 °C. Soon after the war, the Taganrog Works (TKZ) was restored on a new technical basis and

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again became one of the leading Soviet boiler manufacturers. In 1944, the Barnaul Boiler Works (Barnaul'skiy Kotel'niy Zavod) commenced production.

The period since the war is characterised by the use in Soviet power engineering of high-steam conditions of 100 atm., and 510 °C, and higher medium steam conditions of 40 atm. and 450 °C. The introduction of automatic welding of drums under a layer of flux much simplified the manufacture of high-pressure boilers.

In the first ten years after the war, the number of high-pressure direct flow boilers manufactured in the USSR was only about 5% of all production. However, there is no doubt that more boilers of this design will be built in the future.

Boiler design has been greatly standardised since the war. All kinds of low-grade fuel are successfully burned. However, the standard designs will in some cases need adapting to suit different kinds of fuel. Boiler standardisation has been characterised by the use of a single-type of longitudinal cross-section, the only difference being in the width of the front for different sizes. This policy has facilitated and cheapened the pro-

 duction of many parts of boilers. As a result of design improve-

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ments, boiler efficiencies are now as high as 92%.

Work has been done to improve the quality of steam and so that now even in a heat and electric power station using a considerable proportion of chemically-purified feed water, it is possible to produce steam with a salt content not exceeding 0.05 mg/kg and a silica content not exceeding 0.02 mg/kg.

Rotatable burners have begun to be used in high-pressure boilers but they have not yet been successfully used for automatic control of superheat temperatures. Superheat temperature has been succesfully controlled in some high-pressure boilers by means of condensate injection.

The first boilers, type ТП-240-1, have been designed and manufactured (see Fig.1). These boilers have an output of 240 t/h with a pressure in the drum of 185 atm. and a steam temperature of 555 °C, with reheat to 525 °C at 32 atm. Two such boilers supply a 150 MW turbine. The boilers operate on high ash Moscow Basin coal which is milled and dried in drum-type ball mills so that intensive air heating is not necessary. A general description of these boilers is given.

In recent years, the Taganrog Works and the Central Boiler Turbine Institute (TsKTI) have developed boiler set type ТП-430

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Achievements and Prospective Developments of Boiler Manufacture in the USSR.

with a steam output of 430 t/h intended for a steam pressure of 100 atm. at a temperature of 540 °C. A boiler of this type operating as a unit with 100 MW turbine will commence operation this year.

The main steam conditions for most large boiler sets are now 140 atm. at 570 °C with reheat to 570 °C. Boilers type ТП-80 are being designed and manufactured for these conditions. This is a drum-type boiler with a steam output of 420 t/h without reheat, whilst boiler ТП-90 has an output of 540 t/h with reheat. Boiler ТП-100 will have an output of 660 t/h with the same steam conditions.

Boilers ТП-90 and ТП-100 are designed with an original T-shaped arrangement. In this arrangement, the gas is taken away from the furnace at both sides and the super-heaters and tail heating surfaces are arranged in two separate gas ways (see the illustration on p. 18 of the journal). The design and construction of the boilers is described. A direct flow boiler type ПК-33-83-СП is illustrated in Fig.1. It has an output of 660 t/h at a pressure of 140 atm. and a steam temperature of 570 °C super-heat and reheat. The turbine was developed by the Podol'sk Works imeni Ordzhonikidze, together with the Moscow Division of the Central

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Achievements and Prospective Developments of Boiler Manufacture in the USSR.

Boiler Turbine Institute. This boiler is of the usual inverted 'U' arrangement and its construction is described.

Despite the progress that has been made, a number of problems still require solution in connection with the introduction of super-high steam conditions and boiler-turbine units. An important task is to develop the boilers for turbines of 300 and 500-600 MW which are as large as possible, using ferritic steels (240 atm., 580 °C at the turbine) both for super-critical pressure and for the highest possible super-heat temperature, using austenitic steels (at present 315 atm. and 655 °C at the turbine). It is very important to develop new ferritic steels so as to make boilers cheaper and more reliable. It is necessary to increase the output per m^2 of hearth by better design of furnace chambers and burners. These questions are fairly fully-developed for boilers of output up to 660 t/h but require further development for still larger boilers. Improvements are required in the design of super-heaters and the automatic regulation of super-heat temperature is particularly important. Developments in the cheap production of open-cast coal in several parts of the country make it necessary to reconsider the best level of temperature for the outlet gases with due allowance for the need to protect the tail-heating surfaces against

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Achievements and Prospective Developments of Boiler Manufacture in the USSR.

corrosion. Further development of regenerative air heaters is required. Direct-flow boilers must be further developed. There is 1 figure.

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BARSHTEYN, I.K., kand.tekhn.nauk; BELINSKIY, I.Ye., inzh.

Operational characteristics of the 1050/400 mill ventilator designed by the Central Scientific Research Institut for Boilers and turbines. Energomashinostroenie 3 no.12:16-21 D '57. (MIRA 11:1)

(Drying apparatus)

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ZIL'BERMAN, David Ionovich; BARSHTEYN, I.K., kand.tekhn.nauk, red.; LARIONOV, G.Ye., tekhn.red.

[Increasing the efficiency and reliability of operation of furnaces with shaft-type impact mills] Povyshenie ekonomichnosti i nadezhnosti raboty shakhtno-mel'nichnykh topok. Moskva, Gos. energ.izd-vo, 1958. 158 p. (MIRA 12:2)
(Furnaces)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN, I.K., kand.tekhn.nauk

Contest sponsored by the Central Bureau of the Society of the Power Engineering Industry for best work in research. Teploenergetika 7 no. 12:96 D '60. (MIRA 14:1)
(Electric power)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

DUBOVSKIY, I.Ye., kand.tekhn.nauk; NAZARENKO, V.S., inzh.; MIGAY, V.K., kand.tekhn.nauk; BARSHTEYN, I.K., otv.red.; KHARITONOVA, N.D., tekhn.red.

[Results of investigations of and the method for designing the regenerative air heaters of boiler units] Rezul'taty issledovanii i metod rascheta regenerativnykh vozdukhopodogrevatelei kotel'nykh agregatov. Leningrad, Biuro tekhnicheskoi informatsii, 1961. 28 p. (Leningrad. TSentral'nyi nauchno-issledovatel'skii kotloturbinnyi institut. Informatsionnoe pis'mo, no.8-61). (MIRA 16:5)
(Boilers)

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STOLPNER, Yefim Borisovich; ESTERKIN, Rakhmiyel' Iosifovich; BARSHTEYN, I.K., nauchnyy red.; RUSAKOVA, L.Ya., vedushchiy red.; YASHCHURZHINSKAYA, A.B., tekhn.red.

[Adjustment and operation of gas supply systems for boiler units] Naladka i ekspluatatsiia sistem gazosnabzheniia kotel'nykh ustanovok. Leningrad, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, 1961. 353 p. (MIRA 14:12)

(Boilers--Firing) (Gas as fuel)

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ESTERKIN, [illegible]el' Iosifovich; BA[illegible], [illegible]; [illegible]ALYT, M.G., ved. red.; YASHCHURZHINSKAYA, A.[illegible], [illegible] red.

[Operation of boiler plants with [illegible] [illegible]tatsiia [illegible] regatov na gazoobra[illegible] [illegible] Postop- [illegible] dat, 1963. 156 p. [illegible]
(Boilers—Fuel systems)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN, M.

Aerodynamic coefficients for certain types of buildings. Stroi. mekh. i rasch. soor. 1 no.4:49-50 '59. (MIRA 12:10)
(Wind pressure) (Strains and stresses)

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124-58-9-9796

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 9, p 45 (USSR)

AUTHOR: Barshteyn, M. F.

TITLE: The Dynamic Calculation of Tall Cylindrical Structures (Dinamicheskiy raschet vysotnykh sooruzheniy tsilindricheskoy formy)

PERIODICAL: V sb.: Issled. po dinamike sooruzheniy. Moscow, Gos. izd-vo lit. po str-vu i arkhitekt., 1957, pp 6-43

ABSTRACT: Results are shown of experimental investigations, performed in the TsAGI wind tunnel, on the vibrations of a rigid, elastically supported cylinder and an elastic cylinder exposed to an air flow. It is established that the vibrations of the cylinder occur predominantly in a direction perpendicular to that of the flow and have a frequency close to the natural. A theory is set up for this phenomenon, based on the assumption that at or near the extreme positions of the cylinder the detachment of vortices results in a sudden change in circulation, whereas at all intermediate positions the circulation remains unchanged. In addition thereto it is assumed, in the solution of the problem for the elastic cylinder, that its flexure line coincides with the shape of the basic mode of vibration. The solution of the nonlinear equations of motions determines

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124-58-9-9796

The Dynamic Calculation of Tall Cylindrical Structures

the vibration frequency which, in a first approximation, is found to coincide with the natural, and also the amplitude of the vibrations. Recommendations are expounded relative to the dynamic calculation of tall cylindrical structures, utilizing empirical coefficients obtained as a result of the investigations performed.

M. D. Klyachko

1. Cylinders--Vibration 2. Cylinders--Test results 3. Vibration--Mathematical analysis 4. Fluid flow--Applications

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report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb 1960.

1. A. A. Abbasov, A. F. Rasimov, Ia. A. Shvartz (Baku): Supersonic motions of visco-plastic solids and the basis for improving well cementation.

2. A. A. Abbasov, V. M. Makhmiev, A. A. Mirzojan (Baku): Heat transfer in moving viscous and visco-plastic solids.

3. B. L. Abramian (Erevan): Torsion of cylindrical shafts.

4. B. L. Abramian, A. A. Babician (Erevan): Torsion of circular hollow shafts with longitudinal notches.

5. V. I. Agamirov, A. S. Velair, V. E. Minaev (Moscow): Buckling and post-buckling behavior of shells under dynamic loading.

6. A. Iu. Aleksandrov (Novosibirsk): Some relations between the solutions of plane and axisymmetrical problems in the theory of elasticity.

7. A. Iu. Aleksandrov (Novosibirsk): Experimental investigation of plane elastic-plastic problems by means of photoelastic films.

8. V. M. Aleksandrov, A. A. Ostanov (Rostov-na-Donu): Some contact problems in elasticity.

9. R. A. Aleksandrian, E. Kh. Artiunian, M. E. Manukian (Erevan): Torsion of prismatic bars under transient creep.

10. S. A. Alekhnov (Moscow): Two-dimensional bodies of equal strength.

11. N. A. Alumiae (Tallin): Axisymmetrical vibration of an elastic conical shell.

12. S. A. Ambartsumian (Erevan): On the theory of anisotropic shells and plates.

13. S. A. Ambartsumian, L. A. Movsisian (Erevan): Some problems in the theory of anisotropic (non-orthotropic) shells.

14. I. Ia. Amiro (Kiev): Stability analysis of a stiffened cylindrical shell under axial compression.

15. V. V. Andreev, A. M. Kosevich, L. F. Tsaitsev (Khartov): The inelastic deformations and residual stresses in a plane layer of a solid under allotropic transformations.

16. I. G. Aramanovich (Moscow): The stress distribution in a heavy half-space with a circular hole, the edge of which is subject to non-equilibrated forces.

17. M. Areon, M. Tarnenbaum (Bucharest): Photoelastic model studies of creased reinforced concrete beams.

18. E. Kh. Artiunian (Erevan): The plane contact problem of the theory of creep.

19. Y. V. Asonova, T. I. Leonenko, A. A. Troponnikov (Moscow): Shear strengths and limits of reversible strains of solutions and gels of some rubbers.

20. I. F. Balda (Leningrad): The general solution of the problem of elastic strains in a cylinder of finite length.

21. G. I. Barenblatt (Moscow): The theory of equilibrium cracks under brittle rupture.

22. O. M. Bartenev (Moscow): Rheological properties of rubber-like polymers.

23. M. F. Barshtein (Moscow): Dynamic design of structures subject to random effects.

24. E. P. Bashlykov (Moscow): Temperature distribution in container and metal during extrusion.

25. Ber an Pin (Pekinian), Hsu Tsai-Hsu (Tsinghua), O. S. Ryzhov (Moscow): On the dynamics of rigid-plastic structures.

26. V. G. Bergsteinov (Leningrad): The theory of the limit state of stress in soil mechanics and its applications.

27. A. Iu. Birkgan, A. S. Velair (Moscow): The use of electronic digital computers for solving non-linear problems in the theory of plates and shells.

28. V. I. Blokh (Kharkov): Stress displacement functions.

29. V. A. Bolin (Dnepropetrovsk): Difference-variational methods of the theory of structures.

30. V. I. Bolko (Kiev): On solving Hertz's contact problem with interior fields of plasticity.

31. V. V. Bolotin (Moscow): Method of space transformations in the non-linear theory of plates and shells.

32. V. V. Bolotin (Moscow): The non-linear problems of aero-elasticity at supersonic speeds.

33. V. V. Bolotin (Moscow): Strength and damage under action of random forces.

34. V. V. Bolotin (Moscow): The statistical theory of seismic design of structures.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN, M.F. (Moskva)

Effect of wind on high structures. Stroi. mekh. i rasch. soor. no.1: 19-32 '59. (MIRA 12:7)
(Wind pressure) (Strains and stresses)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN, M.F. (Moskva)

Using probability methods in designing structures for earthquake stresses. Stroi. mekh. i rasch. soor. 2 no. 2:6-14 '60. (MIRA 14:5)

(Earthquakes and building)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN, M. F.

Application of Probability Methods for Design the Effect of Seismic Forces on Engineering Structures."

Report presented at the 2nd World Conference on Earthquake Engineering, Tokyo and Kyoto, Japan, 11-18 July 60.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

SOV

AUTHOR: ~~Barshteyn, M.P.,~~ Gusakov, V.N.) Candidate of Technical Sciences /97-57-11-9/10

TITLE: Practical Tests on Load-Carrying Constructions for the Games Arena at the Central Stadium imeni V.I. Lenin. (Naturnyye ispytaniya nesushchikh konstruktsiy areny ruchnykh igr Tsentral'nogo stadiona imeni V.I. Lenina).

PERIODICAL: Beton i Zhelezobeton, 1957, Nr 11, pp 465-466.

ABSTRACT: The TsNIPS and the Institute for Building Technique of the Academy of Building and Architecture of USSR carried out statical and dynamic investigations of load-bearing constructions for the above stadium. Tests were carried out by Candidate of Technical Sciences N.P. Korovin, Engineers V.S. Pavlyk, P.K. Shklyarevskiy (through the TsNIPS) and I.P. Ryzhov, A.V. Pan'kov, Ye.Ya Svetova and N.M. Belyayeva of the Institute for Building Technique. The aim of these investigations was to determine the actual load-bearing capacities of the precast standard reinforced concrete units. Various tests are described in detail. Investigations showed that during the calculation and design of deformations of typical joints

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SOV/97-57-11-9-10

Practical Tests on Load-Carrying Constructions for the Games Arena at the Central Stadium imeni V.I. Lenin.

of these prestressed elements a considerable quantity of reinforcement and concrete could have been saved. This could have been effected if sufficient protection had been taken against the corrosion of the reinforcement and the deformations by testing full-scale units. There is one illustration.

1.Structures--Analysis 2. Reinforced concrete--Loading 3. Reinforced concrete--Testing equipment 4. Reinforced concrete --Test results

Card 2/2

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN, M. P.

3(7), 3(5) SOV/50-59-2-23/25

AUTHORS: Anapol'skaya, L. Ye., Gandin, L. S.

TITLE: Conference on Applied Climatology (Soveshchaniye po prikladnoy klimatologii)

PERIODICAL: Meteorologiya i gidrologiya, 1959, Nr 2, pp 69 - 70 (USSR)

ABSTRACT: Between October 27 and 31, 1958 a Conference on Applied Climatology was held at the Glavnaya geofizicheskaya observatoriya im. A. I. Voyeykova (Main Geophysical Observatory imeni A. I. Voyeykov). The conference was convened upon request of the Glavnoye upravleniye gidrometeorologicheskoy sluzhby (Main Administration of the Hydrometeorological Service). 91 institutes participated, among them 8 scientific research institutes of the Hydrometeorological Service, 20 UGMS, 17 planning organizations, and 54 scientific research institutes of various authorities. In all, participation amounted to 254 persons. 22 papers were read. V. P. Pastukh spoke on the experience of the GGO in the field of aiding the economy, O. A. Drozdov on space and time characteristics of the climate, V. N. Sokolov on the use of the calculation technique, N. K. Klyukin on the work accomplished in the field of applied climatology of the Northeast of the USSR, Ye. S. Rubinshteyn spoke on the method developed by him for the determination of temperatures for the purpose of calculating the five cold days on the basis of the data of the monthly average temperature of the coldest month of the year. G. N. Ustinov suggested in his paper some principles by means of which the territory of the USSR should be divided in regions (for the planning of living quarters). V. M. Il'inskiy gave a survey of the requirements made of climatic data in regard of the projecting of protective structures. L. Ye. Anapol'skaya and L. S. Gandin reported on the method of statistical extrapolation developed by them for the determination of the frequency of high wind velocities. M. P. Barshteyn proposed a method for the determination of the gust coefficient based on the spectrum theory of turbulent pulsations. V. A. Otstavnov gave a survey of the requirements made of climatic data in calculating wind and snow loads on buildings. G. I. Chirakadze reported on the experience made in the consideration of the climate of health resorts in the Caucasus in planning and construction.

Card 1/4

Card 2/4

L. A. Chubukov proposed a method for the analysis of the climates of health resorts based on a general climatology. A. P. Gritsyute studied some climatic characteristics of the Latvian health resorts from the point of view of therapeutics. N. K. Turoverov studied the influence of meteorological conditions on the Caucasian mineral springs. Yu. V. Vatkovskaya reported on climatological investigations for the purpose of modernizing and streamlining living conditions (housing, clothing). V. Yu. Milevskiy proposed a map of actual temperatures for the European part of the USSR. B. V. Tarnishevskiy spoke on the "Consideration of Some Characteristics of the Radiation Climate Which Influence the Operation of Solar Power Plants". N. N. Akimovich spoke on "The Wind Energy Reserves in the Prichernomorskaya Steppe". V. S. Samoylenko submitted extensive climatic characteristics for sea atlasses and handbooks. A. I. Sorkina reported on the use of climatic data for indirect estimates of the wind and wave conditions on seas and oceans. E. I. Ivanov gave a survey of the tasks of and requirements made of marine climatology for the security of sea navigation.

Card 3/4

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN, N. P.

BARSHTEYN, N. P. --"Some Problems in the Aging of Manganese Alloys." Moscow, 1956. (Dissertation for the Degree of Candidate in Technical Sciences.)

So.: Knizhnaya Litopis', No. 7, 1956.

[illegible]

1, Moscow Inst. of Non-Ferrous Metals & Gold im. M. I. Kalinin

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN, N. P., Cand Tech Sci -- (diss) "Certain problems of aging of magnesium alloys undergoing deformation." Mos, 1[illegible]. 14 pp (Mos Inst of Ferrous Metallurgy and Gold im. M. I. Kalinin), 130 copies (KL, 17-[illegible], 107)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

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L 30429-65 EWT(1)/EWA(h) Peb GG/MLK

ACCESSION NR: AT4047627 S/0000/64/000/000/0239/0250

AUTHOR: Mordukhovich, N. G.; Barshteyn, N. P.

TITLE: Investigation of new contact systems used in developing miniature high-frequency switches

SOURCE: Vsesoyuznoye soveshchaniye po elektricheskim kontaktam i kontaktny*m materialam. 3d, Moscow, 1962. Elektricheskiye kontakty* (Electric contacts); trudy* soveshchaniya. Moscow, Izd-vo Energiya, 1964, 239-250

TOPIC TAGS: HF switch, wafer switch, miniature switch

ABSTRACT: Conventional knife-type contacts used in h-f wafer switches are criticized for their high and unstable resistance and early wear. Four new designs of a miniature wafer switch, in which the fixed contacts are electrically closed by a roller, are discussed. Experimental models of the new switches were tested with currents of 50, 150, 250, 350 ma, contact pressures of 10, 25, 35, 45, 70, 90 gr, at 18, 80, 120, 150C, and under tropical humidity conditions. The contact resistance was measured by the voltmeter-ammeter method with

Card 1/3

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L 10429-65
ACCESSION NR: AT4047627

250 v, 50 and 300 ma d-c and with 12 v, 180 ma, at 28 Mc; the resistance was measured after 0, 1, 3, 5, 10, 15, 20, 25, 30 thousand operations. It was found that: (1) The contact resistance varies with the number of operations in the same fashion for all contact materials; (2) After 5,000 operations, the contact resistance of design I was twice as high as that of design II; (3) Minimum contact resistance and maximum stability were shown by designs I and II whose fixed contacts were made from L-62 brass electroplated by 10 microns of silver and 1--2 microns of rhodium, and whose roller was made from SrNM-2-20 bronze; (4) After 30,000 operations, design I showed greater wear than did design II. Based on the above investigation, a new miniature wafer switch was designed; it has greater stability and 1/4 to 1/5 contact resistance as compared to older designs. For new designs, see Enclosure 1. Orig. art. has: 11 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 13Jul64 ENCL: 01

SUB CODE: EC NO REF SOV: 002 OTHER: 001

Card 2/3

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

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ACCESSION NR: AT4047627

ENCLOSURE: 1

№	Общий вид	Неподвижный контакт / Fixed contact	Подвижный контакт / Movable contact	Пружина / Spring
I				
II				
III				
IV				

Appearance

Card 3/3

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

S/191/61/000/002/010/012
B124/B204

AUTHORS: Barshteyn, R. S., Kotlyarevskiy, G. A.

TITLE: Softeners for polyvinylchloride and its copolymers

PERIODICAL: Plasticheskiye massy, no. 2, 1961, 57-60

TEXT: The most important condition which must be fulfilled by a softener for polar polymers (e.g. PVC and its copolymers), is polarity. In softeners the following polar groups may be used: Ester groups (in diester-and polyester-softeners), chlorine containing groups (in chlorinated paraffins) and inorganic anions, which are bound to a benzene ring (as, e.g. in tricresylphosphate). The diester of dicarboxyl acids (phthalic adipic and sebacic acid) and of monohydric alcohols (2-ethylhexanol, alcohols of the fatty series C_7 - C_9 and butyl alcohol) are especially well suited; the latter are especially effective for obtaining frost-resistant plasticized material. The most wide-spread are monomeric softeners on the basis of phthalic anhydride ("phthalates") and of sebacic acid ("sebacinates"). From the

Card 1/4

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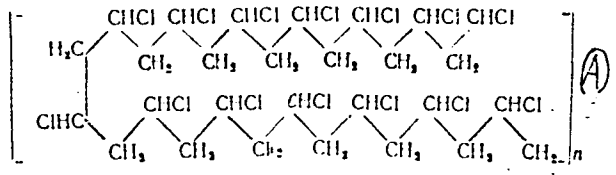
practice of softening of PVC it is known that the greatest softening effect is brought about by the "phthalates" of alcohols of the fatty series, the phthalate of n-octyl alcohol whose molecule is 16.5A long having the most favorable properties. The formula of PVC may be represented by



(A)

or by $(C_{28}H_{42}Cl_{14})_n$. The macromolecule of PVC, which consists of $C_{28}H_{42}Cl_{14}$ -links, has a spiral-shaped structure. In the synthesis of softeners, compatible with PVC, it was assumed that 1) polyesters are the most effective softeners, if their macromolecules have a length which is equal to that of the PVC-link or is its multiple; 2) the molecular weight of polyester softeners must not be lower than 1000-1200, where the migration

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of the softener is low and 3) the polyester macromolecules must, have aliphatic radicals as end groups. The optimum quantity of the softener is calculated from the relation A = M.100/875.m, where A is the quantity of the softener per 100 parts by weight of PVC-resin, M is the molecular weight of the softener, and m the equivalence coefficient. The polyester softeners may be synthetized (1) either with equal functional groups at the ends (-OH or -COOH) with following esterification of the end groups with fatty acid or fatty alcohol. The formula of the compound obtained is then

$$CH_3(CH_2)_3\underset{\underset{O}{\|}}{OC}(CH_2)_4\underset{\underset{O}{\|}}{C}\left[OCH_2\underset{\underset{H_3C}{|}}{CH}O\underset{\underset{O}{\|}}{C}(CH_2)_4\underset{\underset{O}{\|}}{C}\right]_4 O(CH_2)_3CH_3;$$

or (2) it is brought about by interchange of ester radicals of the esters of dicarboxylic acid by means of glycols, where the compounds obtained has the formula

$$CH_3(CH_2)_3\underset{\underset{O}{\|}}{OC}(CH_2)_8\underset{\underset{O}{\|}}{C}\left[O(CH_2)_2O(CH_2)_2\underset{\underset{O}{\|}}{OC}(CH_2)_8\underset{\underset{O}{\|}}{C}\right]_3 O(CH_2)_3CH_3.$$

The plasticized

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S/191/61/000/002/010/012
B124/B204

Softeners for polyvinylchloride...

materials with polyester softeners were rolled at 150-155°C and pressed at 160-165°C. The PVC resin "ПФ-специальная" ("PF-special"), and, as stabilizer, the epoxy resin ЭД-5 (ED-5) were used. Further, the compatibility of polyester softeners with polyvinyl chloride, the compatibility degree, the mechanical, physical, and dielectric properties of the plasticate were investigated. The migration of the softener was gravimetrically investigated. On the basis of the selective difficult solubility in organic solvents, plasticates, which are resistant among other things also to Diesel fuel and Diesel oil, were developed. There are 5 figures and 26 references: 11 Soviet-bloc and 8 non-Soviet-bloc.

Card 4/4

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

IGNATOVA, T.A.; BARSHTEYN, R.S.

Adhesives for poly(vinyl chloride). Plast.massy no.10:61-62 '62. (MIRA 15:11)

(Vinyl compound polymers)
(Adhesives)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN, R. S.; MESHKOVA, N. D.

Methods for controlling re-esterification reactions. Plast. massy no.11:63-64 '62. (MIRA 16:1)

(Resins, Synthetic) (Esterification)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

L 13018-63 EPF(c)/EPR/EWP(j)/EWT(m)/BDS AFFTC/ASD Pr-4/Ps-4/Pc-4 RM/WW

ACCESSION NR: AP3000407 S/0191/63/000/005/0064/0065

72

AUTHOR: Barshteyn, R. S.; Akopdzhanyan, E. A.

TITLE: Methods of enhancing the mold-resistance of polyvinylchloride plastic

SOURCE: Plasticheskiye massy*, no 5, 1963, 64-65

TOPIC TAGS: mold-resistance, polyvinylchloride plastic, dimethyl esters, polyester plasticizers, methoxy groups, PF-special resin, plastics

ABSTRACT: Studies were carried out on the selection and synthesis of fungicides to be incorporated in the plasticizer for preventing mold fungus damage to polyvinylchloride pipes, coatings, packaging materials, etc. The following compounds, presumed nonutilizable as nutrients by molds were selected for testing: dimethyl esters, including dimethylphthalate (DMP), dimethyladipinate (DMA), and dimethylsebacate (DMS), and polyester plasticizers containing terminal methoxy (prepared in collaboration with V. G. Gorbunova). Samples of plastics obtained from polyvinylchloride resin ("PF-special" brand) using these plasticizers and calcium stearate as stabilizer were exposed to the action of spores of 7 species of mold fungus in distilled water at a relative humidity of 98-100% and a temperature of around 30C. DMP, DMA, and DMS plactics showed adequate long-term resistance (24 months' observation) to fungus attack, and the plastics prepared with the polyester plasticizers

Card 1/2

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ACCESSION NR: AP3000407

gave excellent long-term protection. Under natural conditions (dry and damp environments), mold resistance was intact after 1 year in the Moscow region, and after 2 years in a subtropical region, though in the latter case mold resistance was slightly lower after 2 years' exposure in the open air. Other plasticizers, such as dibutylphthalate, dioctylphthalate, and dioctylsebacate were found to increase susceptibility to mold, as they are utilized for nutritional purposes. Orig. art. has: 1 table.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 10Jun63 ENCL: 00

SUB CODE: MA NO REF SOV: 002 OTHER: 001

Card 2/2

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BEGIDZHANOVA, A.P.; KREYNDLIN, L.M.; GORBUNOVA, V.G.; BARSHTEYN, R.S.

Substituting plastic materials for copper in making low pressure fuel pipes. Trakt. i sel'khozmash. 33 no.2:43-44 F '63. (MIRA 16:3)

1. Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy traktornyy institut (for Begidzhanova, Kreyndlin). 2. Nauchno-issledovatel'skiy institut plastmass (for Gorbunova, Barshteyn).
(Tractors--Fuel systems) (Pipe, Plastic)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

L 38277-65 EWP(j)/EWT(m) Po-4 PM

ACCESSION NR: AP5008240 S/0286/65/000/005/0130/0130

17

AUTHORS: Kotlyarevskiy, G. A.; Barshteyn, R. S.; Gorbunova, V. G.; Khrustaleva, L. M.

TITLE: Method for obtaining polyester plasticizers for polyvinylchloride compositions. Class 39, No. 149217

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 5, 1965, 130

TOPIC TAGS: polyvinylchloride, polyester

ABSTRACT: This Author Certificate presents a method for obtaining polyester plasticizers for polyvinylchloride compositions. To preserve the high-frequency characteristics of the material during operation, dicarbonic acid esters and fatty alcohols are heated in the presence of acid catalysts with dihydric alcohol with distillation of monohydric alcohol from the reaction mixture.

ASSOCIATION: none

SUBMITTED: 25Dec58 ENCL: 00 SUB CODE: OC

NO REF SOV: 000 OTHER: 000

Card 1/1 mb

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN, R.S.

BARSHTEYN, [illegible] MARKEVSKIY, G.A.

Mechanism of the plastification of polyvinyl chloride. Plast. massy no.7: 13-14 '65. (MIRA 18:7)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

[illegible]A, A.V.; [illegible], [illegible].S.

Roentgenographic and microscopic analysis of some modified polyesters. Plast. massy no. 12:42-45 '65 (MIRA 19:1)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

L 06231-67 EWT(m)/EWP(j) IJP(c) DJ/RM

ACC NR: AP6030659 SOURCE CODE: UR/0020/66/169/006/1370/1372

44

B

AUTHOR: Lur'ye, Ye. G.; Ratner, S. B.; Barshteyn, R. S.

ORG: State Scientific Research Institute of Plastics (Gosudarstvennyy nauchno-issledovatel'skiy institut plasticheskikh mass)

TITLE: The effect of the mechanism of plasticizing on the wear of polyvinyl chloride

SOURCE: AN SSSR. Doklady, v. 169, no. 6, 1966, 1370-1372

TOPIC TAGS: polyvinyl chloride, plasticizer, abrasion, chemical bonding

ABSTRACT: The purpose of this investigation was to determine the effect of the mechanism of plasticizing on the mechanical properties of polymers. Three systems were investigated: (a) polyvinyl chloride + 45% dioctylphthalate; (b) polyvinyl chloride + + 25% dioctylphthalate; (c) polyvinyl chloride + 25% polyester plasticizer. The obtained polymers were subjected to abrasion on a disc grinder against a metal grid. The temperature during experiments varied within 20-100°C. Destruction of polymers during abrasion is described by the following equation:

$$I = I_0 \exp\left[-\frac{U_0 - \lambda p_r}{RT}\right], \qquad (1)$$

where T is the intensity of wear, p_r is the force per unit area of the specimen, U_0 is

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Card 1/3

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2

the energy of activation for the breakage of bonds and I_0 and λ are constants. The data obtained for the above three systems are shown in figure 1. It can be seen that U is a linear function of p_r. The extrapolation of U-p_r curves for all polymers produces a single y-intercept, corresponding to U_0 = 36 kcal/mol. This value is very close to the energy of activation for the breakage of the chemical bond during thermal destruction of polyvinyl chloride. Thus, U_0 is determined strictly by the strength of the chemical bond and does not change with the change in the type of plasticizer, which affects only the magnitude and the distribution of intermolecular bonds in the polymer. The values of I are determined from the slope of U-p_r curves, and are different for each of the three considered systems. Increases in the amount of plasticizer increase λ. From equation (1), I approaches I_0 as $1/T$ approaches 0. The obtained data show, however, that $I=I_0$ at some finite temperature. At these temperatures, polymers cease to exist as solids. The authors thank S. I. Kovaleva and V. G. Gorbunova for their help in carrying out the experiments. Presented by Academician V. A. Kargin on 16 December 1965. Orig. art. has: 2 figures.

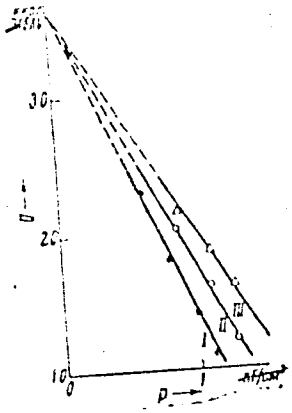

Fig. 1
Effect of specific pressure p_r on the effective energy of U. I--polyvinyl chloride + 45% dioctylphthalate; II--polyvinyl chloride + 25% dioctyl-

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ACC NR: AP6030659

phthalate; III--polyvinyl chloride + 25% polyester plasticizer.

SUB CODE: 07,11/ SUBM DATE: 09Dec65/ ORIG REF: 011/ OTH REF: 001

Card 3/3

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN, V.A.

Semiautomatic machine for milling key grooves. Mashinostroitel' no.7:16-17 '61. (MIRA 14:7)

(Milling machines)

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BARSHTEYN, V.A., [illegible]; [illegible], [illegible], [illegible]; [illegible], [illegible]; POLIK, V.N., [illegible].

Dressing the contact track of [illegible] resistors of potentiometers. Priborostroenie no.6:19 [illegible] '[illegible]. (MIRA 18:7)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

ESTHONIA/General Problems of Pathology - Tumors. Human Tumors. U.

Abs Jour : Ref Zhur - Biol., No 2, 1959, 8906

Author : Barshteyn, Yu.A., Fradkin, Ya.P.
Inst : -
Title : A Malignant Nevogenic Tumor with Multiple Metastases in the Central Nervous System

Orig Pub : Nõukogude Eesti tervishoid, Zdravookhr. Sov. Estonii, Sb. 5, 1956, 61-65

Abstract : The patient's disease began with a severe headache, particularly on the left side. Involvement of the III, V and VI pairs of cranial nerves was found on the left and multiple verrucoid structures in the skin of the hairy part of the head. The data of the history, clinical picture and histological examination of the verrucoid structures led to the conclusion that the patient had a nevogenic malignant tumor of the hairy part of the head with metastases to the skull, dura mater, brain,

Card 1/2

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN, Yu.A., starshiy nauchnyy sotrudnik (Kiyev)

Comparative pathomorphology of the spleen of white mice following external gamma radiation with radioactive cobalt (CO_{60}) and internal beta radiation with radioactive phosphorus (P_{32}). Vrach. delo no.4:389-391 Ap '60. (MIRA 13:6)

1. Kiyevskiy nauchno-issledovatel'skiy institut epidemiologii i mikrobiologii (nauchnyy rukovoditel' - deystvitel'nyy chlen AMN SSSR, prof. L.V. Gromashevskiy).
(SPLEEN) (BETA RAYS--PHYSIOLOGICAL EFFECT)
(GAMMA RAYS--PHYSIOLOGICAL EFFECT)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1

BARSHTEYN Y. A

~~Barshetyn, YU. A.~~, Pochinok, P. YA., Zaritskiy, A. M., Serbrennikova, V. I., Ponomareva, G. YE.

Continued studies of possibilities that healthy persons can be carriers of dysentery microbes.

Materialy nauchnykh konferentsii, Kiev, 1959. 288pp
(Kievskiy Nachno-issledovatel'skiy Institut Epidemiologii i Mikrobiologii)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203710016-1"

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[illegible]

[illegible], [illegible]., [illegible], S. [illegible]., [illegible], [illegible].

On the [illegible] morphology of the [illegible] of [illegible] simultaneous action of trauma [illegible] at different types of radiation ([illegible] gamma-rays of radio cobalt and [illegible] of [illegible] under conditions of [illegible] respectively [illegible]. [illegible]

[illegible], [illegible], [illegible]. ([illegible] [illegible] Institut [illegible])

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