

# **Patents and Publications of Prof. Albert V. Chuvpilo, Ph.D., Sc.D.**

## **Patents**

1. Method of Manufacturing of a Tubular Thermoelectric Battery. USSR #169620, 1963
2. Instrument for Forming of Sheet Thermal Layers. USSR # 170638, 1963
3. Cylindrical Feeding Device. USSR # 173697, 1963
4. Galvanic Battery. USSR # V 2978, 1966
5. A Device That Processes Components with an Ion Beam. USSR # 277964, 1966
6. Galvanic Battery. UK # 1204569, 1968
7. Galvanic Battery. France # 1598823, 1968
8. A Device for Compaction of a Diaphragm in a Galvanic Element. USSR #256000, 1968
9. A Method of Manufacturing of Electrochemical Convertors of Energy. USSR # 273340, 1968
10. An Automated Line of a Rotor Type. USSR # 413026, 1971
11. Electric Output Contacts. USSR # 304881, 1971
12. A Device for Installation of a Wire Electric Output in a Chemical Element. USSR # 377928, 1971
13. Disk Frictional Transport Mechanism. USSR #424687, 1972
14. A Device for Furling of a Diaphragm and its Insertion into the Negative Electrode of a Chemical Element. USSR # 432619, 1972
15. Automatic Nut Wrench. USSR # 475251, 1973
16. A Device to Assemble a Set of Serial Elements of a Chemical Source of Electricity. USSR # 568990, 1973

17. A Regenerative Recuperative Heat Exchanger. USSR # 561073, 1973
18. A Method to Obtain a Thickened Electrolyte for a Source of Electricity. USSR # 557440, 1974
19. A Device to Apply Paste to the Inside Surface of a Chemical Source of Electricity. USSR # 675489, 1974
20. A Device for Dosing of Loose Materials. USSR # 562724, 1975
21. A Micro Device for Dosing of Loose Materials. USSR # 562723, 1975
22. A Method to Obtain a Thickened Electrolyte for a Source of Electricity. France # 7527751, 1975
23. A Method to Obtain a Thickened Electrolyte for a Source of Electricity. Spain # 441221, 1975
24. A Method to Obtain a Thickened Electrolyte for a Source of Electricity. Germany # 5240274, 1975
25. A Device for Loading of Components of a Chemical Source of Electricity. USSR # 529512, 1975
26. A Method to Obtain a Thickened Electrolyte for a Source of Electricity. Israel # 903, 1975
27. Mesh Heat Exchanger. Germany # DE 2633466 C2, 1976
28. A Device for Assembly of a Chemical Source of Electricity from Flat Components. USSR # 589879, 1976
29. A Tray for a Vacuum Drying Camera. USSR # 596800, 1976
30. USSR # 103838, 1976
31. USSR # 109324, 1976
32. A Method for Obtaining of Fine-Grained Powdered Metals. USSR # 799263, 1977
33. A Device to Apply Paste to the Inside Surface of a Chemical Source of Electricity. USA # 4099549, 1977

34. A Device to Apply Paste to the Inside Surface of a Chemical Source of Electricity. Spain # 459178, 1977
35. A Device to Apply Paste to the Inside Surface of a Chemical Source of Electricity. Spain # 459178, 1977
36. Mesh Heat Exchanger. USA # 4147210, 1979
37. Mesh Heat Exchanger. France # 2362354, 1979
38. Chain Belt to Convert Rotational Movement into Reciprocating Movement. USSR # 815363, 1979
39. Mesh Heat Exchanger. Japan # 1000885, 1980
40. Mesh Heat Exchanger. UK # 1558994, 1980
41. A Device to Obtain Ultra-Fine-Grained Powders. USSR # 991664, 1981
42. A Device to Find Electrically Anomalous Areas of Skin and its Implementation. USSR # 1360733, 1981
43. A Device to Manufacture a Spiral. USSR # 981018, 1981
44. A Fabric Filter for Filtration of Ultra-Fine-Grained Powders. USSR # 1047500, 1982
45. A Device for Dispersion of Melts. USSR # 1026938, 1982
46. A Device to Obtain Fibrous Materials out of Melts. USSR # 1090502, 1982
47. A Method to Obtain the Configuration of Electrically Anomalous Zones of Skin in Electrophysiological Studies. USSR # 1318655, 1983
48. A Device for Ear Reflexotherapy. USSR # 1210830, 1984
49. A Device to Stimulate the Vegetative Nervous System. USSR 15193665, 1986
50. A High-Gradient Magnetic Filter. USSR # 1504963, 1987
51. A Device for Serial Production of Mesh through Punching and Stretching. USSR # 1575430, 1988

52. A Device to Establish the Loss of Quality of a Biological Liquid. USSR # 1635909 A3, 1989
53. A Biological Corrector. Russia # 1766238 C1, 1991
54. A Biological Corrector. Russia # 2007992 C1, 1991
55. A Method to Establish the Violation of Temperature Conditions in Storage of a Biological Liquid and a Device Implementing it. Russia # 2061372 A3, 1992
56. A Device for Inhalation. Russia # 1836113, 1992
57. A Device for Opening of Nuts. Russia # 2045928, 1993
58. A Cylinder for Galvanic Treatment of Components. Russia # 2071345, 1993
59. A Thermal Insulating Container. Russia # 2098997, 1995
60. A Method and Device to Decrease Electrical Resistance of a Conductor without Altering the Material Structure by Applying a Frequency Electric Field Operating at Normal Temperature. USA # 61307325, 2010

## **Publications**

1. A Device to Manufacture Agglomerate Mixtures. Moscow, 1958
2. An Assembly Line to Manufacture Electrolytes for Sources of Electricity. Moscow, 1958
3. A Design of a Production Facility for Manufacturing of Alkaline Batteries. Elets, 1958
4. Continuous Dosing of Powders. Moscow, 1959
5. Design of Rotational/Chain Automated Line. Moscow, 1959
6. Complex Automation of a Production Facility of a Chemical Source of Electricity. Klaipeda, 1959

7. Complex Automation of a Production Facility of a Chemical Source of Electricity. Moscow, 1960
8. Preparation of Multi-Component Powder Materials. Moscow, 1961
9. Universal Continuous-Operation Machine to Prepare Multi-Component Mixtures. Moscow, 1961
10. Universal Continuous-Operation Machine to Prepare Multi-Component Powder Mixtures. Moscow, 1961
11. Complex Automation of Manufacturing Process of Components. Moscow, 1962
12. Rotor Line with Chain Transport for Flat Sources of Electricity. Moscow, 1962
13. Methods of Manufacture of Powder Mixtures. Moscow, 1962
14. New in the Theory and Technology of Manufacture of Powder Mixtures. Monograph. Moscow, 1962
15. Molding of Box-Shaped Housings from Sheet Polymers. Moscow, 1964
16. Conditions for Optimal Accuracy of Cross-Operational Transmission in Rotor Lines
17. Developing a Method and Research of Continuous Processes for Thin-Layer Dosing and Mixing of Solid and Liquid Components. Tbilisi, 1965
18. A Study of Operation of a Machine for Continuous Volumetric Dosing of Powders. Moscow, 1965
19. A Study of Operation of a Machine for Manufacturing of Moist Powder Mixtures. Moscow, 1965
20. A Study of Operation of a Device for Manufacturing of Dry and Moist Mixtures of Ferrites. Moscow, 1965
21. Developing a Method and Research of Continuous Processes for Thin-Layer Dosing and Mixing of Solid and Liquid Components. Ph.D. Dissertation. Moscow, 1965
22. Developing a Method to Manufacture a Tubular Thermoelectric Battery through Sequential Pressing. Moscow, 1965

23. A Study of Operation of a Machine for Continuous Volumetric Dosing of Powders. Moscow, 1966
24. A Statistical Determination of the Relationship between the Coefficient of Non-Homogeneous Mixing of Fine-Grained Powders and the Sample Size. Moscow, 1966
25. Investigation of the Operation of Equipment for Feeding Powders in Continuously by Volume. Chemical and Petroleum Engineering. Springer Verlag. New York, 1966
26. Design of Automated Rotor Lines without Transport Rotors. Tula, 1966
27. Analysis of Structure of the Technological Cycle of an Automated Machine for Continuous Production of Multi-Component Powders Mixtures. Tbilisi, 1967
28. Methods of Automated Transport and Orientation of Parts in Rotor Lines. Kiev, 1967
29. Rotor Lines in Production of Chemical Source of Electricity. Kiev, 1967
30. Foundations of Calculation, Design, and Research of a Non-Vacuum Work Room with a Controlled Neutral Gas Environment. Monograph. Moscow, 1967
31. Highly Effective Method of Production of Multi-Component Powder Mixtures and the Design of the Automated Machine that Implements it. Moscow, 1967
32. Progressive Production Technology of Miniature Sources of Electricity and its Influence on the Design of Automated Machines. Moscow, 1967
33. Calculations and Design of Rotor Lines to Manufacture Miniature Sources of Electricity. Sevastopol, 1967
34. A Study of a Non-Vacuum Work Room with a Neutral Gas Environment for Technological Processing. Sevastopol, 1967
35. Calculations and Design of a High-Throughput Receiver of Ions. Sevastopol, 1967
36. Autonomous Energy in National Economy. Sevastopol, 1967

37. Dwell Time and the Effect of Longitudinal Mixing of Metal and Semiconductor Powders. Kiev, 1967
38. A Study of a Device for Production of Multi-Component Moist Powder Mixtures. Moscow, 1968
39. Trends in the Development of Research that Study the Influence of the Sample Size on the Evaluation of the Quality of Mixing. Moscow, 1968
40. Calculations of Specific Characteristics of Meshes Manufactures Through Waste-Free Punching and Stretching. Moscow, 1968
41. A Mechanism for Roller Feed with Controlled Error for Mesh Catalysts. Moscow, 1968
42. A Mechanist for Roller Feed with Controlled Error to Feed Parts. Moscow, 1968
43. Automation of Assembly of Chemical Sources of Electricity Based on Automated Rotor Lines. Sevastopol, 1968
44. High-Precision Mechanism for Feeding of Sheet Blanks. Sevastopol, 1968
45. A Study of Reliability of a Machine for Waste-Free Manufacturing of Grating of Rechargeable Batteries. Moscow, 1968
46. A Study of Parameters of Waste-Free Meshes for Sources of Electricity of Convertors of Energy. Moscow, 1968
47. Research and Development of Automated Machines which Optimize the Structure of Active Materials and Electricity Output in Sources of Electricity, Convertors of Energy, and Similar Domains of Technology. Doctor of Science Dissertation. Moscow, 1968.
48. A Study of Change Cross-Section of Powder Flow During Continuous Dosing. Moscow, 1969.
49. The Influence of Dwell Time and the Effect of Longitudinal Mixing of Powders on the Reliability of Automated Machines for Production of Mixtures. Moscow, 1969
50. A Study of the Influence of the Sample Size on the Evaluation of the Mixing Quality of Fine-Grained Powders. Moscow, 1969

51. Hydraulic and Aerodynamic Parameters of Waste-Free Meshes. Moscow, 1969
52. A Study of a Non-Vacuum Work Room with a Neutral Environment used in Technological Operation. Moscow, 1969
53. New Equipment for Production of Physical Convertors of Energy. Erevan, 1969
54. A Study of Relationship Between the Sample Size and Inhomogeneity of Heterogeneous Powder Structures. Moscow, 1969
55. Flow Processes of Directed Structure Formation of Powder Mixtures (in Russian and in English). Marianske Lasne, 1969
56. Analysis of a Structure of a Technological Cycle of an Automated Machine for Production of Multi-Component Powder Mixtures. Moscow, 1970
57. Design of Automated Rotor Lines without Transport Rotors. Tula, 1970
58. Processes of Directed Structure Formation of Powder Mixtures. Leningrad, 1970
59. Perspectives of Using High-Temperature Complex Devices to Study Solid Powder Materials. Leningrad, 1970
60. The State and Effectiveness of Design of High-Temperature Complex X-Ray Installations. Leningrad, 1970
61. The Problem of Research of Automated Machines for Production of the Sources of Electricity. Leningrad, 1970
62. An Installation for Highly Effective Production of Powder Mixtures. Moscow, 1970
63. The Influence of the Properties of Loose Materials on the Precision of Volumetric Dosing. Moscow, 1970
64. High-Temperature Installation for Measurement of Electromotive Force of Hall Effect in Alternate Electric and Magnetic Fields. Moscow, 1970



65. About Dynamics of Creation and Transfer of Ions in an Inhabitable Work Room with a Stabilized and Ionized Environment. Moscow, 1970
66. The Influence of Vibration Technology on Milling and Compaction of Fine-Grained Brittle Materials. Moscow, 1970
67. Automated Device to Measure the Speed Profile of a Flow of Liquid or Fluid. Moscow, 1970
68. Analysis of Research and Development of Rotor Machines and Lines for Chemical Sources of Electricity. Moscow, 1970
69. Synthesis of a Cyclogram of a Machine to Manufacture Powder Mixtures. Kiev, 1970
70. On the Way of Technological Progress. Moscow, 1970
71. The Results of Production Trials of an Installation for Continuous Manufacturing of Powder Mixtures. Moscow, 1971
72. An Installation for Highly Effective Production of Powder Mixtures. Moscow, 1973
73. Evaluation of the Dwell Time and the Effect of Longitudinal Mixing in a Continuous Operation Mixer (in English). Prague, 1972
74. The Influence of the Cross-Section of Dosing of Powders on the Mixing Quality in a Continuous Operation Mixer (in English). Prague, 1972
75. The Influence of the Sample Size on the Evaluation of the Mixing Quality of Fine-Grained Powder (in English). Prague, 1972
76. Orienting of Parts of Chemical Source of Electricity on Frictional Disks. Moscow, 1973
77. A Study of Automated Machines used in Production of Electricity Sources. Tula, 1973
78. On Terminology and Classification of Vibration Shock Crushers of Powders. Leningrad, 1974
79. Kinematics of a Vibration Shock Crusher of Powders. Leningrad, 1974

80. Some Results of Crushing of Macrocrystalline Manganese Dioxide. Leningrad, 1974
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82. Problems of Preparation of Powder Mixtures with Microdosing of Original Components. Sevastopol, 1974
83. A Device to Measure Humidity of Certain Hygroscopic Plates. Sevastopol, 1974
84. An Installation to Measure Electric and Thermal Conductivity of Semiconductor Materials under Elevated Temperatures. Sevastopol, 1974
85. Continuous Stabilization of the Ratio of Flows of Powders. Odessa, 1980
86. Measurement of Continuous Consumption of Loose Materials. Odessa, 1980
87. Processes and Devices of Chemical Technology (Work Program and Methodological Guidelines). Moscow, 1981
88. A Study of Electromagnetic Environment in Biotron Rooms. Moscow, 1982
89. Reconciliation of Characteristics of an Electromagnetic Feeder of Powder with the Conditions of the Environment. Ivanovo, 1982
90. A Study of the Control of Technological Parameters of Mono- and Polydisperse Loose Materials using a Method of Coherent Optics. Ivanovo, 1982
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93. Aseptic Necrosis of the Head of Femur as a Possible Manifestation of Lumbar Osteochondrosis. Kiev, 1984

94. Processes and Devices of Chemical Technology (Work Program and Methodological Guidelines). Moscow, 1985
95. Processes and Devices of Chemical Technology (Tests). Moscow, 1985
96. Processes and Devices of Chemical Technology (Methodological Guidelines for the Thermodynamic part of the thesis). Moscow, 1985
97. Processes and Devices of Chemical Technology (Methodological Guidelines for the Heat and Hydrodynamic Processes and Mechanical Calculation of the Installation). Moscow, 1985
98. Processes and Devices of Chemical Technology (Methodological Guidelines for the Following Subjects: Paint Machines, Boilers, Rectification, Adsorption, Absorption). Moscow, 1985
99. Processes and Devices of Chemical Technology (Methodological Guidelines: Evaporators, Dryers, Refrigerators). Moscow, 1986
100. Geometric Structure of Waste-Free Meshes and Matrices Based on them. Moscow, 1987
101. Features of Technological Cyclogram for Continuous Production of Multi-Component Powder Mixtures. Moscow, 2001
102. A Study of Dwell Time and the Effect of Longitudinal Mixing of Powders in Continuous Flow Systems. Moscow, 2001
103. The Influence of the Sample Size on the Evaluation of the Quality of Mixing of Fine-Grained Powders. Moscow, 2002
104. Effect of Sample Size on Evaluation of Mixing Quality of Finely Disperse Powders (in English). Chemical and Petroleum Engineering. Kluwer. New York, 2002
105. Technology of Increase of Efficiency of Platinum Catalysts Made with Notched Mesh. Moscow, 2003
106. Optimization of Hydraulic Parameters of Reticulated Agitators for Demineralization Plants. Moscow, 2004
107. Optimization of Hydraulic Parameters of Reticulated Agitators for Demineralization Plants (in English). Chemical and Petroleum Engineering. Kluwer. New York, 2004

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109. Methods to Increase Durability of Carbide Tools used in Drilling of Wells and Mines. Moscow, In Print

110. Dwell Time and Effect of Longitudinal Displacement of Powders in Continuously Operating Systems (in English). Chemical and Petroleum Engineering. Kluwer. New York, 2004

111. Characteristic Features of Process Sequence Diagrams for the Continuous Preparation of Multicomponent Powder Mixtures (in English). Kluwer. New York, 2001