RESEARCH CORPORATION PATENTS PAPERS, 1936-1988
Finding Aid

ARRANGEMENT
The collection is arranged topically.

BOX & FOLDER LIST

Box 1
Babel, Fred J. and Donald W. Mather: Culture Process for Cottage Cheese
Fred Babel was a professor of dairy bacteriology in charge of the dairy manufacturing section at the Purdue University School of Agriculture. Mather worked for Sealtest Foods. Together, they developed a method of inhibiting certain types of bacterial spoilage in creamed cottage cheese by using a creaming mixture prepared with *Streptococcus citrovorus* which greatly increased the shelf life of cottage cheese. Purdue University contracted with Research Corporation to represent the invention to the marketplace. Ed Greenblatt was the licensing representative in charge of this product.

F. 1 Correspondence, 1962-1964
F. 2 Dairy Industry Organizations [Milk Industry Foundation, American Dairy Council]
F. 3 Licensees and Potential Licensees
F. 4 Miscellaneous
F. 5 Patents
F. 6 Publications
F. 7 Visit Reports, 1960-1963

Bose, Amar G.: Signal Translation
Bose was born in Philadelphia in the 1930s, the son of Indian parents. He studied electrical engineering at MIT where he became interested in acoustics. He was one of the first to design a speaker that made use of sound reflecting off walls and ceilings. In addition to teaching electrical engineering and computer science at MIT, he founded Bose Corporation, whose speakers are well known for the quality of their sound reproduction.

F. 8 Correspondence, 1956-1968

Brown, Gordon S. and Jay W. Forrester [see also: Boxes 3-7]
F. 9 Correspondence, 1954-1963
F. 10 Patent

Brown, Sanford C.: Voltage Stabilizing Tube
F. 11 Correspondence, 1947-1955
F. 12 Miscellaneous

Buck, Dudley A. and Kenneth H. Olsen: Saturable Switch and Cryotron
Buck and Olsen invented a magnetically controlled electronic switching device that operates at extremely low temperatures; designed to supplant, in part, the transistor in special electronic equipment (e.g., the computer)]. Kenneth H. Olsen invented vital computer components and co-founded Digital Equipment Corporation, developer of the minicomputer. In 1957, the cryotron, a superconductive computer switch, was announced. Developed by Buck at Massachusetts Institute of Technology, the cryotron was the first practical use of superconductivity-the ability of some metals to conduct current with no resistance at extremely low temperatures. Its operation was based on the effects of magnetic fields on superconductivity at liquid helium temperatures. The cryotron was hailed as a revolutionary component for miniaturizing the room-sized

computers of the 1950s. [see also: Forrester]
F. 13-15 Correspondence, 1953-1964
F. 16 Miscellaneous
F. 17 Patents
F. 18 Publications

Burns, William E.: Electromagnetic Signal-receiving and Hydraulically Responsive Automatic Control Means, System and Method

F. 19 Legal Documents
F. 20 Miscellaneous

Box 2

Draper, Charles E.: Vibration Measuring Devices and Detonation Detection Equipment

F. 21-24 Correspondence, 1943-1963
F. 25-26 Legal Documents, 1941-1963
F. 27 Miscellaneous
F. 28 Notes
F. 29 Publications

Fano, Robert M.: Anti-multipath Communication System

F. 30 Miscellaneous, 1958-1963

Flemings, Merton C. Jr.: Casting Process and Apparatus

F. 31 Communications, 1960-1962
F. 32 Miscellaneous

Box 3

Forrester, Jay W.: Computer Memory

Jay Wright Forrester was born in Nebraska in 1918. He attended University of Nebraska and graduate school at MIT. He was an electrical engineer and management expert who, while working on the Navy's Whirlwind project, invented random-access, coincident-current magnetic storage. His magnetic core memory became the dominant form of computer memory in the 1950s, and remained in use until the late 1970s, making Forrester a pioneer in early digital computer development. MIT named Research Corporation administrator of Forrester's patent in 1955. Although no licenses were issued on the patent, two infringement cases were pursued by Research Corporation, against RCA and IBM. In 1962, while these cases were still pending, MIT canceled its agreement with Research Corporation. [see also: Box 1, F. 9-10]
F. 33 Chronologies, 1950-1963
F. 34 Commercial Computer Data
F. 35 Correspondence, Board of Directors, 1961-1963
F. 36-38 Correspondence, Miscellaneous, 1950-1964
F. 39 Correspondence, To and From Forrester, 1950-1961
F. 40 Expert Witnesses, 1960-1962
F. 41 MIT Agreement with Research Corporation: Assignment, 1948-1953
F. 42 MIT Agreement with Research Corporation: Cancellation
F. 43 MIT Agreement with Research Corporation: Correspondence, 1947-1957
F. 44 News Clippings
F. 45 Notes

Box 4

Forrester, Continued
F. 46 Patents
F. 47-50 Patent Infringement Inquiries
F. 51-52 Publications-Computers, General
F. 53 Royalty Policy and Reports, 1958-1962

Box 5
Forrester, IBM
F. 54-61 Correspondence, 1952-1970
F. 62 Correspondence, Litigation, 1963-1964
F. 63 Legal Documents
F. 64 News Clippings
F. 65 Notes
F. 66 Patents
F. 67 Publications
F. 68 Reports, Miscellaneous

Box 6
Forrester, IBM, Continued
F. 69 Reports-Wolf Project Whirlwind [Project Whirlwind originated in 1944 as part of the Navy's Airplane Stability and Control Analyzer (ASCA) project. The project was intended to negate the need to build individual computers for flight simulators by serving as a general-purpose simulator that could emulate any design programmed into it. Jay Forrester was the leader of the computer portion of the ASCA project. He soon recognized that analog computers were not fast enough to operate the trainer in real time and began investigating the potential for real-time digital computers for Whirlwind. By early 1946, Forrester expanded the goal of the Whirlwind program from building a generic aircraft simulator to designing a real-time, general-purpose digital computer that could serve many functions other than flight simulation. This project pioneered many innovations in the development of computers.]
F. 70 Correspondence, 1961-1963
F. 71 Miscellaneous
F. 72 Reports, 1947-1950
Rajchman [Papers pertaining to patent interference between Research Corporation/Forrester and Jan A. Rajchman]
F. 73-74 Correspondence, 1956-1965
F. 75 Legal Documents
F. 76 Miscellaneous
F. 77 Patents
RCA [Papers pertaining to patent interference and eventual litigation between Research Corporation/Forrester and RCA]
F. 78-81 Correspondence, 1958-1968

Box 7
Forrester, RCA, Continued
F. 82 Legal Documents, Answers and Replies
F. 83 Legal Documents, Briefs
F. 84 Legal Documents, Closing
F. 85 Legal Documents, Complaints
F. 86 Legal Documents, Interrogatories
F. 87 Legal Documents, Judgments/Orders

F. 88-92 Legal Documents, Miscellaneous
F. 93 License Agreements, 1959-1962
F. 94 Miscellaneous
F. 95 News Clips
F. 96 Patents
F. 97 Publications

Box 8

Gibbon, John H./Mayo Clinic: Pump Oxygenator

John H. Gibbon was professor of surgery and director of Experimental Surgery at the Jefferson Medical College in Philadelphia. He opened a new era in the history of cardiac surgery by developing the first heart-lung machine that does the work both of the heart (pumping blood) and the lungs (oxygenating the blood). Blood returning to the heart is diverted through the machine before returning to arterial circulation. Gibbon performed the first successful surgery using the heart-lung machine in 1953.

F. 98-104 Correspondence, 1954-1976
F. 105 Legal Documents
F. 106 Miscellaneous
F. 107 News Clippings
F. 108 Patents
F. 109 Photographs
F. 110 Publications

Box 9

Giser, Samuel: Analog Multiplier

F. 111 Miscellaneous, 1958-1964

Guditz, Elis A.: Printed Wire Circuit Assemblies

F. 112 Miscellaneous, 1956-1962

Hall, Albert C.: Servomechanisms

F. 113 Miscellaneous, 1948-1961

Hardy, Arthur C. and O.C. Rudolph and Sons: Polarimeter and Magneto-Optic Null Sensing Polarimeter [The polarimeter is an instrument for determining the amount of polarization of light or the proportion of polarized light in a partially polarized ray; a polariscope for measuring the amount of rotation by a plane or polarization, especially by liquids. Hardy was an optical physicist at MIT In 1935, the first U.S. patent for a spectrophotometer was issued Hardy; he called it a "photometric apparatus." His invention was an electronic device capable of both detecting two million different shades of color and making a permanent record chart of the results. Hardy assigned the patent to General Electric which sold the first machine in 1935.]

F. 114-120 Correspondence, 1951-1965
F. 121 Miscellaneous
F. 122 Patents and Licenses

Harrington, J.V. and Paul Rosen: Method of Land Line Pulse Transmission

F. 123 Correspondence, 1956-1964
F. 124 Publications

Harris, L.A.: Method and Apparatus for Generating Hollow Electron Beams

F. 125 Correspondence, 1951-1960
F. 126 Patents

Box 10

Hauser, Ernst A. and E.M. Dannenberg: Alsifilm
F. 127-130 Miscellaneous, 1944-1964

Heidt, L.J. and A.F. McMillan: Photo-chemical Energy Storage Process
F. 131 Miscellaneous, 1953-1959

Hottel, H.C. and Williams: Combustion Chamber with Conical Air Diffuser
F. 132 Miscellaneous, 1951-1953

Howland, Bradford: Flux Concentrator
F. 133 Correspondence, 1960-1964
F. 134 Miscellaneous

Institutions Other than Massachusetts Institute of Technology (MIT)
F. 135 Miscellaneous

Inventions
F. 136 Inventions, A [Includes Abkowitz; Archer; Austler; Autler]
F. 137 Inventions, Douglas P. Adams
F. 138 Inventions, B [Includes Backofen; Baddour; A. Baker; S. Baker; Baumann; Berg; Bikerman; Buechner]
F. 139 Inventions, E. J. Baghdady
F. 140 Inventions, Dudley Buck and Kenneth Shoulders
F. 141 Inventions, C [Includes Clark and Rohsenow; Cobb and Uhlig; Coffin; Collins; Cope; Crocker; Crouse]
F. 142 Inventions, D [Includes DeSantis; DiBartolo; Dillaby]

Box 11

Inventions, Continued
F. 143 Inventions, E-F [Includes Fairweather and Sapuppo; Fano; Farnsworth; Ferretti; Frazier; Fuld]
F. 144 Inventions, G [Includes Garber; Gardon; Grant, Zwilsky, Bucklin and Abrahamson; Gras; Green; Guditz and Weiner]
F. 145 Inventions, H [Includes Hannoosh and Milo; Hayward; Heidt; Heller; Hildebrandt; Hoff and Sunyach; Hottel; Howland; Howland and Berg; Hurney and Pantazelos]
F. 146 Inventions, I-J [Includes Ingraham; Johnston]
F. 147 Inventions, K [Includes Kaye and Fand; Keyes and Quist; King; Kingston and McWhorter; Koch; Kolm; Koskinen; Krizik]
F. 148 Inventions, L [Includes Langley; Lee; Leeper; Leonard, Krauss, Averbach and Cohen; Lerner; Li; Locher and Cayovette; Lockhart and Harriman; Loeb; Logan]
F. 149 Inventions, M [Includes Malecki; Mann; Mateles; Maxwell; Meyfarth; Minsky; Morrow; Muehe; Mueller; Murphy]
F. 150 McWhorter and Rediker; Meyer and McWhorter
F. 151 Inventions, N-O [Includes Nugent; Oberbeck]

Box 12

Inventions, Continued
F. 152 Inventions, Norman Nelson
F. 153 Inventions, P [Includes Pappas; Papian; Parker; Peterson; Pike; Pomykala; Poynton; Putnam]
F. 154 Inventions, Kenneth Perry and Aho
F. 155 Inventions, Q-R [Includes Rachwal; Raffel; Rediker, Halpern and Sawyer; Regillo; Reiffen; Reinecke, Hofheimer and Perry]
F. 156 Inventions, Fred Quelle and Marvin Zimmerman
F. 157 Inventions, S [Includes Salo and Waugh; Santa; Sapuppo; Shapiro; Smullin; Sonier; Speece; Spencer; Stern; Strandberg]
F. 158 Inventions, Harold H. Seward
F. 159 Inventions, Seyferth and Burlitch
F. 160 Inventions, Donald O. Smith

Box 13
Inventions, Continued
F. 161 Inventions, T-U [Includes Tancrell; Thompson; Toong; Trump; Tsutsumi; Unger]
F. 162 Inventions, V-W [Includes Wagner; Waugh and Yphantis; Weingut and Williamson; Wickham; Wingerson; Witcher; Wolga]
F. 163 Inventions, Francis Vinal and Daniel Brown and Goodenough
F. 164 Inventions, John Wulff
F. 165 Inventions, X-Z [Includes Ziegler; Zoltai and Brown]

Jeffrey, Richard C., John F. Jacobs, Rollin P. Mayer and Samuel L. Thompson: Linocomputer
F. 166-172 Correspondence, 1954-1966

Box 14
Jeffrey, Jacobs, Mayer and Thompson, Continued
F. 173 Figures
F. 174-177 Inventions
F. 178-179 Legal Documents, 1954-1964 and n.d.
F. 180 License Agreements
F. 181 Miscellaneous
F. 182-183 Patents

Jones, Donald F. & Paul C. Mangelsdorf: Hybrid Seed Corn
F. 184 Miscellaneous, 1950-1957
F. 185 Miscellaneous, Canadian Patent, 1949-1958
F. 186 Miscellaneous, Mexican Patent, 1949-1962

Box 15
Kistler, Samuel S.: Chemtempering Glass
Early in his career, using the now-classic process of supercritical fluid drying, Samuel Kistler formed the world's first aerosol. He spent much of his career studying the properties and uses of aerosols. In addition, he worked in chemistry and engineering, education, science policy and world affairs.
F. 187 Correspondence, 1970-1982
F. 188 Financial Documents
F. 189 Government Agencies
F. 190 Legal Documents
F. 191 Licensees

F. 192 License Agreements
F. 193 News Clippings
F. 194 Notes
F. 195-196 Patents, Corning
F. 197 Patents, Others

Box 16

Kistler Continued

F. 198-199 Publications, in English
F. 200 Publications, Other Languages

Lee, Yuk Wing: Apparatus for Computing Correlation Functions

F. 201 Miscellaneous, 1954-1956

Lerner, Robert M.: Impulse Noise Suppression Communication System

F. 202 Miscellaneous, 1961-1964

Li, Y.T.: Pressure Transducer/Engine Indicator

F. 203-205 Correspondence, 1949-1964
F. 206 Miscellaneous
F. 207 Publications

Mack, Charles L.: Optimizing Apparatus

F. 208 Miscellaneous, 1955-1960

McMahon, R.E.: Magnetic Memory Core

F. 209 Correspondence, 1960-1961
F. 210 Patents

Massachusetts Institute of Technology (MIT)-Research Corporation (RC) Agreement

F. 211-212 Annual Reports from Research Corporation to MIT, 1948-1954 [Includes disks containing pdfs of all reports, 1948-1963]

Box 17

Massachusetts Institute of Technology (MIT)-Research Corporation (RC) Agreement Continued

F. 213-215 Annual Reports from Research Corporation to MIT, 1955-1963
F. 216-219 Correspondence, 1936-1944 [Correspondence and memos re: proposed MIT-RC Patent Development Agreement]
F. 220-222 Correspondence, 1945-1954 [These papers cover interactions that took place between the foundation and the university.]

Box 18

Massachusetts Institute of Technology (MIT)-Research Corporation (RC) Agreement Continued

F. 223-231 Correspondence, 1955-1968 [These papers cover interactions that took place between the foundation and the university. Included are memos providing monthly accounts, beginning in 1957, of visits by Research Corporation to MIT in which various projects are discussed. In 1963, MIT terminated its agreement with RC, creating a flurry of correspondence and litigation.]

Box 19

Massachusetts Institute of Technology (MIT)-Research Corporation (RC) Agreement Continued
F. 232 Legal Documents-Agreements, 1936-1964
F. 233 Legal Documents-Miscellaneous, 1963-1967
F. 234 Legal Representation, 1957-1963
F. 235 Miscellaneous
F. 236 News Clippings
F. 237 Notes
F. 238 Publications, 1937-1962

Milas, Nicholas A.: Peroxides, Synthesis of Vitamin A, Vitamin D Homologs, Water Soluble Vitamins, Hydroacetylenes, Synthetic Steroids
F. 239-243 Correspondence, 1941-1950

Box 20
Milas, Nicholas A. Continued
F. 244-257C Correspondence, 1951-1967

Box 21
Milas, Nicholas A. Continued
F. 258 Legal Documents, 1936-1960
F. 259-260 License Agreements, 1941-1960
F. 261 Miscellaneous
F. 262 News Clippings
F. 263 Notes
F. 264 Patents-Milas
F. 265 Patents-Miscellaneous
F. 266 Publications-Milas
F. 267 Publications-Miscellaneous
F. 268 Royalty Reports-Pfizer, 1951-1959

Box 22
Morton, Avery A.: Metallation of Olefins, Formation of Alkenylsodium Compounds
F. 269 Correspondence, 1943-1951
F. 270 Miscellaneous

Newton, George C. Jr.: Pressure Sensor
F. 271 Correspondence, 1960-1962
F. 272 Miscellaneous

Reed, Thomas B.: Induction Plasma Torch
F. 273-274 Correspondence, 1961-1964
F. 275 Licenses
F. 276 Miscellaneous
F. 277 Patents
F. 278 Publications

Roberts, Lawrence G.: Improvements in Pulse Code Modulation
F. 279 Correspondence, 1961-1964
F. 280 Miscellaneous

Rodgers, Franklin A. and Charles L. Corderman: Cathode Ray Display Tube
F. 281-284 Correspondence, 1954-1964
F. 285-286 Legal Documents, 1957-1963
F. 287 Miscellaneous
F. 288 Patents
F. 289 Publications

Box 23
Salo and Waugh: Collagenous Articles and Preparation of Same
F. 290 Miscellaneous, 1945-1952

Sheehan, John C.: Production of Penicillins
Fleming's discovery of penicillin in 1928 was a tremendous breakthrough for medical science. But Fleming's process for harvesting the antibiotic took months to generate a small amount. During World War II, demand for penicillin rose and researchers worked feverishly to synthesize the molecule. More than a thousand scientists in 39 U.S. labs became involved in the project. But when the war ended and the molecule still had not revealed its structure, the funds for research ended. From 1948 to 1957, only John Sheehan's laboratory at MIT continued the research. In March of 1957, Sheehan announced the first rational total synthesis of natural penicillin. The next year he reported a general total synthesis of penicillins.
F. 291-296 Correspondence, 1951-1964
F. 297 Legal Documents, 1955-1964
F. 298 License Agreements
F. 299 Miscellaneous
F. 300 News Clippings
F. 301 Notes
F. 302 Patents
F. 303 Publications

Stockbarger, D.C.: Synthetic Crystals, Optovac
F. 304-307 Correspondence, 1939-1953

Box 24
Stockbarger, D.C., Continued
F. 308-310 Correspondence, 1954-19
F. 311 Licenses
F. 312 Patents
F. 313 Publications

Teager, Herbert M.: Electronic Drafting Board
F. 314 Correspondence, 1961-1962
F. 315 Patents
F. 316 Publications

Thompson, T.J.: Nuclear Reactor
F. 317 Miscellaneous, 1956-1957

Townes, Charles H.: Microwave and Optical Masers, Laser/Maser [Charles
Townes was born in 1915; he attended Furman University, Duke and California Institute of Technology.

After receiving his Ph.D., he worked for Bell Labs and taught physics at Columbia University. He eventually directed the Columbia Radiation Laboratory, was director of research for the Institute for Defense Analysis in Washington D.C., and then taught at MIT and University of California at Berkeley. With Nicolay Bennadiyevich and Aleksandr Mikhailovich Prokhorov, Townes won the 1964 Nobel Prize in physics "for fundamental work in the field of quantum electronics, which has led to the construction of oscillators and amplifiers based on the maser-laser principle."]

Licensees

F. 318 A, Miscellaneous [Includes ACF Industries Inc.; Advanced Kinetics Inc.; Aga Corp.; Air Reduction Co.; Air Technology Corp./Advance Industries; American Laser Systems Inc.; Arvin Systems Inc.; Astromarine Products Corp.; ATI Inc.; Austin Electronics Corp.]
F. 319 American Laser Corp.
F. 320 Apollo Lasers, Inc.
F. 321 Avco Everett Research Corp.-Correspondence, 1967-1976
F. 322 Avco Everett Research Corp.-Miscellaneous
F. 323 Avco Everett Research Corp.-Publications
F. 324 B, Miscellaneous [Includes Barnes Engineering Corp.; Bay State Electronics Corp.; Beckman Instruments Inc.; Bendix Corp.]
F. 325 Bausch and Lomb, Inc., 1962-1976
F. 326 Britt Electronic Products Corp., 1969-1976

Box 25

Townes, Charles H, Continued

F. 327 C, Miscellaneous [Includes Candela Corp.; Capehart Corp.; Carver Corp.; Cary Instruments; CBS Laboratories; Cogar Corp.; Compagnie Generale D'Electricite; CompuDyne Corp.; Conductron Corp.; Constructors Supply Co.; Corning Glass; Cosmic Inc.]
F. 328 Carson Laboratories, Inc., 1967-1974
F. 329 Chromatix, 1970-1976
F. 330 Coherent Radiation Laboratories, Correspondence, 1966-1976
F. 331 Coherent Radiation Laboratories, Miscellaneous
F. 332 Control Laser, Inc./Orlando Research, 1969-1977
F. 333 CW Radiation Inc., 1970-1977
F. 334 D, Miscellaneous [Includes Datalight Inc.; Data Optics Corp.; Diversified Scientific Inc.; DoAll Co.; Dynabeam; Dynamet]
F. 335 E, Miscellaneous [Includes Ealing Corp.; Eastman Kodak Co.; Electro-Photonics Ltd.; Electrophysics Corp.; Electro Scientific Industries; Elliot Electronic Tubes Ltd.; Energy Systems Inc.; Energy Technology Inc. (ETI); Ewen-Knight Corp.]
F. 336 Electro Powerpacs, Corp., 1961-1966
F. 337 F, Miscellaneous [Includes Fairchild Engine and Airplane Corp.; G. Finkbeiner Inc.; F.N. Camera; Foxboro Co.]
F. 338 Ferranti Ltd., 1969-1976
F. 339 G, Miscellaneous [Includes Gaertner Scientific Corp.; General Dynamics; General Lasers; General Motors; General Photonics Corp.; Grumman Aircraft Engineering Corp.]
F. 340 General Electric Co., 1961-1974
F. 341 General Laser Corp./Maser Optics Inc., 1961-1966

Box 26

Townes, Charles H., Continued

F. 342 Gen-Tec Inc., 1973-1976
F. 343 GTE Sylvania Inc., 1962-1976

F. 344 H, Miscellaneous [Includes Hadron Inc.; Hallicrafters Co.; Hamar Laser Instruments Corp.; Harris Corp.; Harris-Intertype Corp.; High Energy Lasers Inc.; Hoffman Engineering Corp.; Holosonics Inc.; Holotron Corp.; Hyletronics Corp.;]
F. 345 Hewlett-Packard Co., 1962-1976
F. 346 Holobeam Lasers Inc., Correspondence, 1970-1976
F. 347 Holobeam Lasers Inc., Miscellaneous
F. 348 Honeywell, 1962-1976
F. 349 Hughes Aircraft Co., Correspondence, 1960-1976
F. 350 Hughes Aircraft Co., Miscellaneous
F. 351 I, Miscellaneous [Includes Image Information Inc.; Image Optics Inc.; Imetra Inc.; International Laser Systems; International Telephone and Telegraph; Interphase Corp. West; Ion Optics Inc.; Isomet Corp.; Isoray; Itek Corp.]
F. 352 Infrared Industries Inc., 1966-1972
F. 353 International Business Machines (IBM), 1955-1975
F. 354 Jarrell-Ash Company, 1962-1966
F. 355 Jodon Engineering Associates Inc., 1971-1975
F. 356 K, Miscellaneous [Includes Kahle Engineering Co.; Kemlite Labs Inc.; Keuffel & Esser Co. (K&E); Klinger Scientific Apparatus Corp.]
F. 357 Kollsman Instrument Corp., 1961-1962

Box 27

Townes, Charles H., Continued

F. 358 L, Miscellaneous [Includes Laboratory for Electronics Inc.; Lansing Research Corp.; Laser Applications Inc.; Laser Alignment Inc.; Laser Computer Corp.; Laser Consultants Inc.; Laser Film Corp.; Laser Graph Systems; Laser Inc.; Laser Image Systems Inc.; Laserlign; Laser Link Corp.; Laser Lite Inc.; Laser Marine Systems Inc.; Lasermation; Laser Nucleonics Inc.; Laser Optics Inc.; Laser Precision Corp.; Laser Systems & Electronics Inc.; Laser Tech Inc.; Laser Video; Las-R Inc.; Leisure Tron Corp.; Lionel Corp.; Lockheed Aircraft Corp.; Loral Electronics Corp.]
F. 359 Laser Diode Laboratories Inc., 1969-1976
F. 360 Laser Energy Inc., 1969-1976
F. 361 Laser Sciences Inc., 1969-1973
F. 362 Lexel Corp., 1974-1977
F. 363 Liconix, 1973-1976
F. 364 Lumonics Research Ltd., 1970-1974
F. 365 M, Miscellaneous [Includes Mark Systems Inc.; McDonnell Aircraft Corp.; The MacMillan Co.; Medical Lasers Inc.; Adolph Meller Co.; Meret Inc.; Metrology Systems; Metron Corp.; Micronetic Systems Inc.; Microwave Technology Inc.; Molectron Corp.; Monsanto Corp.; Morvue Electronics; Motorola Inc.]
F. 366 Martin Marietta Corp., 1960-1972
F. 367 Melpar Inc., 1961-1967
F. 368 Molectron Corp., 1971-1976
F. 369 N, Miscellaneous [Includes National Co. Inc.; National Research Group; New England Laser Corp.; Nihon Kagaku Kogyo Co. Ltd.; Nippon Electric Co. Ltd.; Nuclear Research Associates Inc.]
F. 370 O, Miscellaneous [Includes Optical Communications Inc.; Optical Data Processing Inc.; Optic-Electronics Corp.; Optech Inc.; Optomechanisms Inc.; Optoray; Oriel Optics Corp.; Orlando Research Corp.]
F. 371 Optics Technology Inc., Correspondence, 1961-1976
F. 372 Optics Technology Inc., Miscellaneous

Box 28

Townes, Charles H., Continued

F. 373 P, Miscellaneous [Includes Parsons Optical Laboratories; PEK Labs Inc.; Phase-R Corp.; Philco Corp.; Photonic Associates; Polytechnic Research & Development Co.]
F. 374 Perkin-Elmer Corporation, Correspondence, 1959-1976
F. 375 Perkin-Elmer Corporation, Miscellaneous
F. 376 Photon Sources Inc., 1968-1974
F. 377 Q, Miscellaneous [Includes Q.E.D. Corp.; Quancomm Inc.; Quanta Dyne; Quantatron Inc.; Quantum Physics Inc.; Quantum Systems Inc.]
F. 378 Quantrad Corporation, 1973-1976
F. 379 Quantronix Corporation, 1969-197
F. 380 R, Miscellaneous [Includes Radiation Inc.; Radiation at Stanford; Raytheon Company; Realist Inc.; Reich Associates]
F. 381 RCA Corporation, 1961-1974
F. 382 RCA Corporation, Miscellaneous
F. 383 Resalab, Inc., 1966-1974
F. 384 S, Miscellaneous [Includes Sanders Associates Inc.; Schiller Industries Inc.; Scope Electronics Inc.; Shumway Optical Instruments Corp.; Signalite Inc.; Singer Co.; Sippican Corp.; Space Optics Research Laboratories Inc.; Space Ordnance Systems Inc.; Space Technology Laboratories; Spectronics Inc.; Science Spectrum Inc.; Sterling Instruments; Synergetics Research Inc.; Systems, Science & Software; Systomation Inc.]
F. 385 Seed Electronics Corp., 1964-1968
F. 386 Semi-Elements Inc., 1962-1968
F. 387 Siemens America Inc., 1967-1970

Box 29

Townes, Charles H., Continued

F. 388 Spacerays Inc., 1966-1974
F. 389 Spectra-Physics Inc., Correspondence, 1963-1976
F. 390 Spectra-Physics Inc., Miscellaneous
F. 391 Synergetics Research Inc., 1970-1974
F. 392 T, Miscellaneous [Includes Tachisto Inc.; Technical Equipment Products Co.; Technical Operations Inc.; Teradyne Applied Systems; Tobe Deutschmann Laboratories Inc.; Tyco Laboratories Inc.]
F. 393 Texas Instruments Inc., 1955-1966
F. 394 Technical Research Group (TRG) Inc., 1959-1968
F. 395 TRW Inc., 1966-1976
F. 396 TRW Inc., Miscellaneous
F. 397 U, Miscellaneous [Includes United Electronics Laboratories Inc.; US Infrared Corp.]
F. 398 Union Carbide Corporation, Correspondence, 1962-1971
F. 399 Union Carbide Corporation, Miscellaneous
F. 400 United Aircraft Corp., 1968-1976
F. 401 University Laboratories, 1967-1970
F. 402 V, Miscellaneous [Includes Valpey Crystal Corp.; Varian Associates; Vari-Tech Co.; Varo Inc.]
F. 403 W, Miscellaneous [Includes Washington Technological Associates Inc.; Whittaker Corp.; Winslow Technology Inc.]
F. 404 Watkins Johnson Co., 1962-1967
F. 405 Western Electric Co. Inc., 1965-1976

Box 30

Townes, Charles H., Continued

F. 406 Westinghouse, 1961-1976
F. 407 X-Z, Miscellaneous [Includes Xenon Corp.; Xion Corp.; Zeiss; Zellweger Ltd.; Zenick Associates; Zenith Radio Research Corp.]
F. 408 Xerox, 1962-1978
F. 409 Miscellaneous

Van de Graaff, Robert J. and High Voltage Engineering Company [The Van de Graaff generator is a device designed to create static electricity and make it available for experimentation. It was invented by the American physicist Robert Jemison Van de Graaff in 1931. The generator can produce voltages as high as 20 million volts. It was invented to supply the high energy needed for early particle accelerators, known as atom smashers because they accelerated sub-atomic particles to very high speeds and then "smashed" them into the target atoms. The resulting collisions created other subatomic particles and high-energy radiation such as X-rays. The ability to create these high-energy collisions is the foundation of particle and nuclear physics. This device has widespread use in atomic research, medicine and industry. Van de Graaff died in 1967.

F. 410-414 Correspondence, 1946-1962
F. 415 Legal Agreements
F. 416 Miscellaneous
F. 417 Patents, 1949-1954
F. 418 Publications, High Voltage Engineering Corporation, 1954-ca. 1963 [Annual Reports 1954, 1955; semi-annual Report, 1960; Interim Report, 1963; General Catalog, ca. 1963; "This is Research," "The Story of High Voltage Engineering Corporation," "Two Million Volt X-Ray Generator for Therapy," "Two Million Volt X-Ray Generator for Radiography," "Particle Accelerators," "The Place of the Particle Accelerator in Research," Bulletins D, E, P, all n.d.]
F. 419 Publications, Miscellaneous, 1937-1957
F. 420 Royalties, 1949-1964

Box 31

Van de Graaff, Robert J. and High Voltage Engineering Company, Continued

Foreign Patents [Because some correspondence refers to patents in multiple countries, researchers should check in the "Miscellaneous Information" files as well as files pertaining to specific countries.]

F. 421 Miscellaneous, 1948-1964
F. 422 Australia, 1951-1961
F. 423 Belgium, 1949-1962
F. 424 Canada, 1951-1957
F. 425 France, 1949-1962
F. 426 Germany, 1952-1960
F. 427-428 Germany, Correspondence, 1948-1961
F. 429 Great Britain, 1948-1962
F. 430 Great Britain, Correspondence, 1948-1962
F. 431 Holland, 1939-1962
F. 432-433 Holland, Correspondence, 1939-1962
F. 434 Italy, Miscellaneous, 1948-1961
F. 435 Sweden, Miscellaneous, 1948-1962

Box 32

von Hippel, Arthur R.: Field Emission Crystal
F. 436 Miscellaneous, 1954-1964

Wang, An: Wang Computer [Wang was born in China in 1920. He came to the U.S. in 1945 and earned a Ph.D. in physics at Harvard University. He founded Wang Laboratories in 1951, a company that made many notable contributions to the advancement of computer technology, including the magnetic pulse controlling device, the principle upon which magnetic core memory is based. Wang died in 1990.]
F. 437 Correspondence, 1955-1958
F. 438 Miscellaneous
F. 439 Patents
F. 440 Publications

Waugh, David F.: Insulin
F. 441-442 Correspondence, 1946-1957
F. 443 License Agreements
F. 444 Miscellaneous
F. 445 Patents

Wertheim, John H.: Radiation Sterilization of Fluid Food Products
F. 446 Miscellaneous, 1956-1964

Westervelt, Peter J. and Sieck: Accoustic Separatory Methods and Apparatus
F. 447 Miscellaneous, 1951-1959

Williams, Roger J.: Pantothenic Acid [Williams was an American biochemist who discovered the growth-promoting vitamin pantothenic acid. Also called vitamin B_5 (a B vitamin), pantothenic acid is a water-soluble vitamin required to sustain life. He was a member of the National Academy of Sciences and president of the American Chemical Society. He was also the brother of Robert R. Williams, who identified thiamine and later synthesized vitamin B_1, and who endowed Research Corporation's Williams-Waterman Fund for the Combat of Dietary Disease.]
F. 448 Correspondence, 1951-1957
F. 449 Correspondence, 1958-1965
F. 450 Miscellaneous
F. 451 Patents
F. 452 Patent Management, Abbott Laboratories, 1948-1957
F. 453 Patent Management, American Cyanamid Co./Lederle Labs, 1948-1964

Box 33A
F. 454 Patent Management, Chemlek Laboratories, 1940-1956
F. 455 Patent Management, Dawe's Laboratories, 1964-1965
F. 456 Patent Management, Fleming Laboratories, 1956
F. 457 Patent Management, Hoffmann-La Roche, 1947-1965
F. 458 Patent Management, Hoffmann-Taff Inc., 1953-1965
F. 459 Patent Management, International, Canada, 1941-1959
F. 460 Patent Management, International, Great Britain, 1943-1955
F. 461 Patent Management, Eli Lilly & Co., 1848-1962
F. 462 Patent Management, Merck, 1941-1961
F. 463 Patent Management, National Oil Products Co. (NOPCO Chemical Co.), 1948-1960
F. 464 Patent Management, Ott Chemical Co., 1963-1965

F. 465 Patent Management, Parke, Davis & Co., 1949-1965
F. 466 Patent Management, Williams Scherer Co., 1947-1966
F. 467 Publications and reports

Young, F. Mansfield and Thomas K. Naylor: Electronic Interpolator
F. 468 Miscellaneous, 1956-1964

Box 33B
NOTE: Additional patent materials added to Patents Archive, discovered during processing of the Foundation's Archives:
F. 469 Lists including: assignments of patents, safe deposit box lists, miscellaneous leases, patent assignments, misc. multiclone orders
F. 470 Assignments of Patents, 1912-1917
F. 471 Assignments of Patents, 1918
F. 472 Assignments of Patents, 1919-1921
F. 473 Assignments of Patents, 1922-1925
F. 474 Assignments of Patents, 1926-1929
F. 475 Assignments of Patents, 1930-1931
F. 476 Assignments of Patents, 1932-1934
F. 477 Assignments of Patents, 1935-1937
F. 478 Assignments of Patents, 1938-1940
F. 479 Assignments of Patents, 1941-1943

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F. 480 Assignments of Patents, 1944-1946
F. 481 Assignments of Patents, 1947-1948
F. 482-484 Early Patents—Miscellaneous, [Includes The Albertus Corporation/bread preservation; Olindo R. Angelillo/invention for the detecting of subaqueous objects; Bettini/motion picture camera; Roy N. Bishop/magnesite; C.S. Bradley/mining the green sands of New Jersey 'for the purpose of extracting therefrom iron, potash and alumina"; Naomi C. Burnham/oil mixing machine; Charles W. Burrows/"Burrows defectoscope and magnetic analyzer for the inspection of steel rails, rods, wire, cable and all other steel and iron stock of uniform section"; C.H. Chalmers/aeronautics; Guy B. Collier/hydrocarbon motor; H.R. Conklin/ore detecting device; H. Espen/crutch with a "rocker" on the bottom; Donald E. Fogg/process for recovering sulphuric acid from acid cake; Rudolf Gahl/process for recovering copper from dilute sulphate solutions by means of unburned limestone; Isaac N. Gates/invention having to do with the building of concrete walls; A. Given/method of making picric acid; Charles W. Girvin/moveable float boat; Carl Hering/fixation of nitrogen; A.C. Harvey/hugtite nut lock; S.J. Johnson/causes of volcanoes and earthquakes; Ferdinand Kronenberg/egg carrier; O. Lellep/method for reducing nickel sulphide matte; Arthur Lippert/machine for harvesting sugar beets; M.L. Lisowski/construction of steel forms for concrete vessels; Robert E. Wilson/use of solid adsorbents for solvent recovery/use of ferric hydroxide gel for solvent recovery and catalytic processes/electrical precipitator/separation of gases by repeated fractional diffusion; George S. McCaa/self-contained oxygen breathing mine-rescue apparatus; Ralph McKee/construction of research laboratory; Charles Messick/phonograph diaphragm; Zantzinger McDonald Miller/telegraph relay; A.E.O. Munsell (son of inventor of Munsell color system)/color notation; Walter Newbert/cycle production synthesis; J.Q. Paris/power transmitting device for automobiles and electrical signal device for railroads; James A.W. Pine/process of coating mineral material; William Rieckelman/process to make hydrocarbon oil synthetically; Conway Robison; J.M Salisbury/method to insulate high-voltage framework of electrostatic precipitator; E. Kilburn Scott/nitrate air plant; W.A. Scott/self-cleaning fork; C.H. Shattuck/process of treating woods; Colin

T.A. Schearer/improvements in ignition lighting and self-starting combinations; Bradley Stoughton/improved process of generating heat of fumes on furnaces; Charles E. Van Barneveld/sulfur dioxide process; J.F. Wade/cotton; Walter Wellman/improved rapid transit system; George D. White/sound locating device; B.B. Wells/device which closes a light circuit on a cash register when drawers of the register are opened; H.L. Tooker/material for half-soleing automobile tires]

F. 485A Early Patents—**Askenasy, Paul** [Method for producing concrete]

F. 485B Early Patents—**Decoster, Charles J**. [Decoster Method of Steel Wool Production], Miscellaneous, 1920-1921

F. 486 Early Patents—**Edelman, Philip E**. [Edelman Automatic Flow Control/Edelman's Automatic Control for Chemical Processes], In 1919, Edelman received the first grant ever awarded by Research Corporation, 1919-1923, Miscellaneous

F. 487 Early Patents—**Espenhahn, Edward V.** [Treatment of Gases Obtained from Coal and Other Carbonaceous Fuel; Cyanogen recovery process], 1918-1920

F. 488 Early Patents—**Lawrence, Ernest O.** [Includes correspondence between Vannevar Bush (then-president of Carnegie Institution of Washington), Carroll Wilson (of Research Corporation's Boston office), John Lawrence (scientist and brother of Ernest Lawrence), Jonathan Adam Fleming (then-director of Department of Terrestrial Magnetism), etc. about uses of radioactive materials created by the cyclotron.], Correspondence, 1939-1940

F. 489 Early Patents—**Lawrence, Ernest O.,** Correspondence, 1941

F. 490 Early Patents—**Lawrence, Ernest O.,** Miscellaneous

F. 491 Early Patents—**Rettger, Leo F.** [Bacillus Acidophilus culture], 1921-1922

F. 492 Early Patents—**Slagle, Edgar A.** [Process for treating sewage, Sulfacar], 1939-1943

F. 493 Early Patents—**Strong, W.W.** [Investigations on the process of electrical precipitation of smoke, dust and fumes], 1913-1921, Correspondence, 1913-1916

F. 494 Early Patents—**Strong, W.W.**, Correspondence, 1917-1921

F. 495 Early Patents—**Strong, W.W.**, Miscellaneous

F. 496 Early Patents—**Tuttle, H.W.** [Automatic Bag Filter for Cleaning of Air and Other Gases/Tuttle Dry Suction Filter/American Dry Suction Filter], 1921

Box 35

Moog, William C. Jr.: Electrohydraulic Servo-valve [second cousin to Robert A. Moog, inventor of the Moog synthesizer]

F. 497-500 Correspondence, 1950-1971

F. 501 Miscellaneous

Manuscripts

F. 502-504 Patents Publications, Manuscripts, written by W.S. Bacon [RC Director of Communications], addressed to Stacy V. Jones, patents columnist for the *New York Times*, containing information about inventions patented by Research Corporation that might be of interest for Jones' column, 1973-1988

F. 505 Patents Publications, "Patents," by Stacy V. Jones. Jones was patents columnist for the *New York Times* for 36 years and authored four books on patents: *The Inventor's Patent Handbook*, *You Ought to Patent That*, *The Patent Office* and *Inventions Necessity Is Not the Mother Of: Patents Ridiculous and Sublime*, 1973-1988

F. 506 Patents Publications, Miscellaneous

Patents

F. 507 Patents Program, Correspondence, 1982-1984

F. 508 Patents Program, Newsletter

F. 509 Patents Program, Procedure Manual, 1983

Box 36

F. 510 Patent Documents, Canada [Edward C. Kendall, Robert J. Cashman]
F. 511 Patent Documents, France [Edward C. Kendall, Robert B. Woodward]
F. 512 Patent Documents, Great Britain [Edward C. Kendall, Robert J. Cashman, Robert B. Woodward]
F. 513 Patent Documents, Mexico [Donald F. Jones and Paul C. Mangelsdorf, Robert B. Woodward]
F. 514 Patent Documents, The Netherlands [Robert B. Woodward]
F. 515 Patent Documents, Switzerland [Edward C. Kendall, Robert B. Woodward]