



Smithsonian

*National Museum of American History Kenneth E. Behring Center*

## Guide to the Kern Dental Equipment Collection

NMAH.AC.0479

Linda Weaver and Alison Oswald

1993

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## Collection Overview

|                    |  |
|--------------------|--|
| <b>Repository:</b> | Archives Center, National Museum of American History   |
| <b>Title:</b>      | Kern Dental Equipment Collection   |
| <b>Date:</b>       | 1936-1970  |
| <b>Identifier:</b> | NMAH.AC.0479   |
| <b>Creator:</b>    | Kern, George Robert, 1894-1962 (cabinet maker, machinist)<br>Kern, George Robert, Jr., 1919-1987   |
| <b>Source:</b>     | National Museum of American History (U.S.). Division of Medical History  |
| <b>Extent:</b>     | 3 Cubic feet (9 boxes)   |
| <b>Language:</b>   | English .  |
| <b>Summary:</b>    | Blueprints, drawings, patent applications, patents, product photographs, correspondence, bills and receipts, advertising, and published articles related to the Kerns' products. The bulk of the material, 1949-1958, is from George Kern's files. It primarily relates to the development and marketing of the Dentagraph and high speed dental drills before the formation of the Fairfax Manufacturing Company in 1957. |

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## Administrative Information

### Acquisition Information

Collection donated by John Kern, 1992, December 22.

### Provenance

Collection transferred to the Archives Center from the Division of Medical History (now Division of Medicine and Science), January 1993.

### Related Materials

The Division of Medicine and Science has several examples of the Kerns' dental equipment, including a Dentagraph and a number of hand pieces.

### Processing Information

Collection processed by Linda Weaver and Alison Oswald, 1993

### Preferred Citation

Kern Dental Equipment Collection, 1936-1970, Archives Center, National Museum of American History.

### Restrictions

Collection is open for research.

## Conditions Governing Use

Usage or copyright restrictions in effect. Contact the repository for details.

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## Biographical / Historical

George Robert Kern was born in 1894 and died in 1962. He was an Arlington, Va., area cabinet maker and machinist who went on to invent several pieces of dental equipment that helped revolutionize the field of dentistry in the early 1950s he was joined in these endeavors by his son, George Kern, Jr.

The elder George Kern began working with dental equipment according to his promotional material because of his own experience with poor fitting dentures. As a machinist accustomed to tight tolerances, he knew it must be possible to make dentures fit better. The result of his work was the Dentagraph and his first patent, granted in 1950. In 1948 a company, Kern laboratory, was incorporated to manufacture the Dentagraph and license the "Dentagraph Tech nic." He also sold dental laboratory benches and dental molding materials under the name Kern Laboratory Equipment Company. Kern's Dentagraph was used by the National Standards Laboratory to test denture materials and the laboratory further improved the device. Apparently Kern received the rights to produce and market this improved tool.

In the early 1950s he began working on high speed dental drills. He developed both a water turbine drill and an air turbine drill. The water turbine drill was manufactured by Bowen Company of Maryland under the trademarked name Turbo Jet. In 1957 the company acquired the rights to this tool and its trademark.

Kern and his son improved on the water turbine drill, and in 1957 formed Fairfax Manufacturing Company (FMC) to produce an air turbine drill and the improved water turbine drill. The senior Kern was a participating stockholder, receiving stock in return for rights to his inventions. George Kern, Jr., L. W. Hazleton (President of Hazleton Laboratories, a biological (research and development company), and R. G. Henninger (General Manager of Hazleton Laboratories) were the company officers. The stockholders included dentists who also tested the companies new products. Densco, Inc., a Colorado dental equipment company, marketed Kern's products from around 1954, and in 1957 the company began to market Fairfax Manufacturing Company's products.

George R. Kern, Jr., was born in 1919. He left public school in the tenth but took courses in industrial electricity and industrial engineering. He worked for worked the National Bureau of Standards for two years building and installing laboratory equipment. In 1951 he began working at Hazelton Laboratories as Superintendent of Maintenance. He patented several pieces of

Dental equipment and specialized parts for dental equipment. He died in 1987.

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## Scope and Contents

This collection includes blueprints and drawings, patent applications, patents, product photographs, correspondence, bills and receipts, advertising, and published articles related to the Kern's products. The bulk of the material, dating from 1949 to 1958, is from George Kern's files. It primarily relates to the development and marketing of the Dentagraph and high speed dental drills before the formation of the Fairfax Manufacturing Company in 1957. Most of the FMC material document's Kern's role as a stockholder. However, a large portion of the blueprints and drawings were created by his son or other FMC employees. Several of the patents are George Kern, Jr.'s, and there are copies of other people's patents that relate to the Kerns' patents or inventing activities. The collection has been arranged in chronological order within five series.

## Arrangement

The collection is divided into five series.

Series 1: Personal Papers, 1952-1959

Series 2: Product Files, 1945-1968

Series 3: Marketing Records, 1936-1962

Series 4: Client Files, 1949-1958

Series 5: Competitor Files, 1957

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## Names and Subject Terms

This collection is indexed in the online catalog of the Smithsonian Institution under the following terms:

### Subjects:

Dental instruments and apparatus -- 1930-1970

Dental technology -- 1930-1970

Dentistry -- 1930-1970

Dentures -- 1930-1970

Inventions -- 1920-2000 -- United States

### Types of Materials:

Advertisements -- 20th century

Blueprints -- 20th century

Correspondence -- 20th century

Drawings -- 1930-1970

Patents -- 20th century

### Names:

Densco, Inc.

Fairfax Manufacturing Company.

Hazelton, L. W.

Hazleton Laboratories.

Henninger, R. G.

Kern Laboratory Equipment Company.

National Museum of American History (U.S.). Division of Medical History

### Occupations:

Cabinetmakers -- 1930-1970

Inventors -- 1930-1970

Machinists -- 1930-1970

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## Container Listing

### Series 1: Personal Papers

Scope and Contents: Series 1, Personal Papers, consists of records of George Kern's employment with National Scientific Laboratories and his honorary membership in the Virginia State Dental Association. It also includes George Kern, Jr's, international driving permit.

#### 1.1 GEORGE KERN:

|                 |   |
|-----------------|---|
| Box 1, Folder 1 | National Scientific Laboratories, 1952        |
| Box 1, Folder 2 | Virginia State Dental Association, 1959 -1961 |

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#### 1.2 GEORGE KERN, JR.:

|                 |                                    |
|-----------------|------------------------------------|
| Box 1, Folder 3 | International Driving Permit, 1959 |
|-----------------|------------------------------------|

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## Series 2: Product Files

**Scope and Contents:** Series 2, Product Files, consists of papers related to product invention and development. This material includes drawings and blueprints; receipts and bills for materials, tools, and services procured; correspondence with suppliers; and published newspaper and magazine articles related to the products. This series has been divided into two subseries: the Dentagraph and other products.

### Subseries 2.1: Dentagraph

|                     |   |
|---------------------|---|
| Box 1, Folder 4     | Receipts and Expenditures, 1945                       |
| Box 2, Folder 13-14 | Dentagraph Laboratory Service, 1945 -1950             |
| Box 8, Folder 95-97 | Dentagraph Parts Drawings and Blueprints, 1948- 1949  |
| Box 1, Folder 5     | The Atrax Company, 1948 -1953                         |
| Box 2, Folder 15    | Method of Making Dentures patent files, 1949          |
| Box 1, Folder 6     | F and M Sales Company, 1949                           |
| Box 1, Folder 7     | New Departure, Division of General Motors Corp., 1949 |
| Box 1, Folder 8     | L. S. Starrett Company, 1949                          |
| Box 1, Folder 9     | Paid Bills, 1949 1951                                 |
| Box 1, Folder 16    | Mackenzie Products Company, 1949- 1951                |
| Box 1, Folder 17 18 | Dentagraph Misc., 1949 -1956                          |
| Box 1, Folder 10    | Cooper Dilley Corp., 1950 -1951                       |
| Box 1, Folder 11    | The National Society of Inventors, Inc., 1950 -1952   |
| Box 1, Folder 12    | The Ball Machine Products Company, 1953               |

### Subseries 2.2: Other Products

|                     |                              |
|---------------------|------------------------------|
| Box 3, Folder 22-23 | High Speed Drill, 1949 -1957 |
| Box 3, Folder 24    | Jordan Profiler, 1950        |
| Box 8, Folder 98    | Anti Backlash, 1950          |
| Box 3, Folder 25    | W. Art Mankey, 1950          |

|                     |  |
|---------------------|--|
| Box 3, Folder 26    | Operation Optical, 1952 -1954  |
| Box 3, Folder 27    | Hydraulic Dental Unit, 1954 1957   |
| Box 3, Folder 28-29 | Kern Turbo Jet Hydraulic Dental Unit, 1954 -1957                             |
| Box 2, Folder 19    | Bowen and Company Inc., 1955 -1957   |
| Box 2, Folder 20-21 | Beale and Jones, Law Office, 1956 -1957                                      |
| Box 9, Folder 99    | Misc. Blueprints and Drawings, 1956 -1964                                    |
| Box 4, Folder 30    | Dental Hand Piece and High Speed Turbine Assembly patent file, 1957 and 1968 |
| Box 5, Folder 42    | Analytical Rotor, 1958   |
| Box 5, Folder 43-45 | Fairfax Mfg. Co. Original Drawings Notebook, 1959 -1962                      |
| Box 4, Folder 31    | Fluid Drive Dental Hand Piece and System patent file, 1960                   |
| Box 5, Folder 46    | Misc. Blueprints and Drawings, 1961 -1965 and undated                        |
| Box 4, Folder 32    | Misc. Blueprints and Drawings, 1962  |
| Box 4, Folder 33    | Fluid Drill patent file, 1962  |
| Box 5, Folder 47    | Syringe Quick Disconnect, 1963   |
| Box 5, Folder 48    | Futura Handpiece, 1963 -1965   |
| Box 5, Folder 49    | Densco Adaptor, 1964   |
| Box 5, Folder 50    | Ball Bearing Chuck, 1964 -1965   |
| Box 4, Folder 34    | Collet Chuck patent file   |
| Box 4, Folder 35    | Dental Unit patent file, 1966 -1967  |
| Box 4, Folder 36    | Spring Drum Reel patent file, 1966 -1968                                     |
| Box 4, Folder 37    | Fluid Selector Valves and Manifold patent file, 1968- 1970                   |
| Box 5, Folder 51    | Notebook of FMC Product Photographs, undated                                 |
| Box 5, Folder 52    | Fairfax Air Caddy Model DC 9000, undated                                     |



Box 5, Folder 53

Fairfax Oral Surgical Unit Model FB 9000, undated

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## Series 3: Marketing Records

Scope and Contents: Series 3, Marketing Records, consists of material related to product marketing. It includes miscellaneous account books (primarily consisting of entries of services provided or products sold by George Kern) and papers related to the promotion and sales of Kern and Fairfax Manufacturing Company products. Most of the FMC material consists of information sent to stockholders.

### Subseries 3.1: Miscellaneous

Box 5, Folder 38      Daybook, 1936

Box 5, Folder 39      Daybook, 1950- 1955

Box 5, Folder 40      Ledger, 1951 -1954

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### Subseries 3.2: Kern Laboratory Equipment

Box 5, Folder 54      Promotional Records and Correspondence, 1949 -1955

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### Subseries 3.3: Earl C. Noyes Advertising Agency

Box 5, Folder 55      Correspondence and Newsletters, 1951-1954

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### Subseries 3.4: Densco, Inc.

Box 5, Folder 56      Correspondence, 1954 1957

Box 5, Folder 57      Projects AI A23, 1957

Box 5, Folder 58      Projects GI GI5, 1957

Box 5, Folder 59      Projects WI WI2, 1957

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### Subseries 3.5: Fairfax Manufacturing Company

Box 5, Folder 60      Prospectus, circa 1957

Box 5, Folder 61      Miscellaneous, 1958- 1962

Box 4, Folder 41      Balance Sheets and Income and Expense Statements, 1959 -1962

Box 6, Folder 62      Equipment and Facilities, 1961

Box 9, Folder 100

Advertisement

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## Series 4: Client Files

Scope and Contents: Series 4, Client Files, primarily consists of bills and correspondence related to customer service.

|                  |   |
|------------------|---|
| Box 7, Folder 63 | Billings Dental Laboratory, 1949- 1953                |
| Box 7, Folder 64 | District Dental Laboratory, 1950- 1951                |
| Box 7, Folder 65 | Polk Dental Laboratory, 1950-1951                     |
| Box 7, Folder 66 | Traci Baldauf Dental Laboratory, 1950 -1954           |
| Box 7, Folder 67 | Brennan Dental Company Dental Laboratory, 1950- 1955  |
| Box 7, Folder 68 | Rothstein Dental Laboratory, 1950-1959                |
| Box 7, Folder 69 | Engineering and Research Corp., 1951 -1952            |
| Box 7, Folder 70 | Bethesda Dental Laboratory, 1951 -1953                |
| Box 7, Folder 71 | Gilliam Dental Laboratory, 1952 -1953                 |
| Box 7, Folder 72 | Hazelton Laboratories, 1952- 1953                     |
| Box 7, Folder 73 | Hawaiian Medical Depot, 1953                          |
| Box 7, Folder 74 | John C. Yates and Son, 1953                           |
| Box 7, Folder 75 | Johnson Miller Dental Laboratory, 1953 -1954          |
| Box 7, Folder 76 | Dr. Lawrence J. Charles, 1954                         |
| Box 7, Folder 77 | National Bureau of Standards, 1954-1956               |
| Box 7, Folder 78 | University of Michigan, 1957                          |
| Box 7, Folder 79 | The Squibb Institute for Medical Research, 1957 -1958 |
| Box 7, Folder 80 | Indiana University School of Dentistry, 1958          |
| Box 7, Folder 81 | Valley Forge Army Hospital, 1958                      |

Box 7, Folder 82

Walter Reed Hospital Department of the Army, 1958

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## Series 5: Competitor Files

Scope and Contents: Series 5, Competitor Files, includes several letters from Densco, Inc. about marketing or product development of specific Kern or Fairfax Manufacturing Co. products in relation to the competitors' products. However, the majority of the material consists of competitors' advertising brochures.

|                  |                                      |
|------------------|--------------------------------------|
| Box 7, Folder 83 | Atlas Copco, 1957                    |
| Box 7, Folder 84 | Borden, 1957                         |
| Box 7, Folder 85 | Bowen, 1957                          |
| Box 7, Folder 86 | Chayes, 1957                         |
| Box 7, Folder 87 | Densco Handpiece, 1957               |
| Box 7, Folder 88 | Densco Vacudent, 1957                |
| Box 7, Folder 89 | Kerr, 1957                           |
| Box 7, Folder 90 | Misc. Handpieces, 1957               |
| Box 7, Folder 91 | Midwest, 1957                        |
| Box 7, Folder 92 | Surgident, 1957                      |
| Box 7, Folder 93 | Swedish Air Turbine Handpieces, 1957 |
| Box 7, Folder 94 | S.S. White, 1957                     |

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