John Hays Hammond Papers

A Finding Aid to the Collection in the Library of Congress

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Manuscript Division, Library of Congress

Washington, D.C.

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Collection Summary

Title: John Hays Hammond Papers
Span Dates: 1908-1965
Bulk Dates: (bulk 1912-1953)
ID No.: MSS24703
Creator: Hammond, John Hays, 1888-1965
Extent: 6,000 items ; 19 containers plus 1 oversize ; 7 linear feet
Language: Collection material in English
Repository: Manuscript Division, Library of Congress, Washington, D.C.
Abstract: Inventor and scientist. Correspondence, notebooks, sketches, technical papers, legal briefs, printed matter, chronologies, and annotated photographs relating to Hammond's scientific career and inventions.

Selected Search Terms

The following terms have been used to index the description of this collection in the Library's online catalog. They are grouped by name of person or organization, by subject or location, and by occupation and listed alphabetically therein.

People
Alexanderson, Ernst Fredrik Werner, 1878-1975.
Bell, Alexander Graham, 1847-1922.
De Forest, Lee, 1873-1961.
Hammond, John Hays, 1888-1965.
Langmuir, Irving, 1881-1957.
Sperry, Elmer Ambrose, 1860-1930.
Tesla, Nikola, 1856-1943.

Subjects
Electron tubes.
Inertial navigation systems--Patents.
Radio frequency modulation.
Radio--Research.

Occupations
Inventors.
Scientists.

Administrative Information

Provenance

The papers of John Hays Hammond, inventor and scientist, were given to the Library of Congress as a bequest in 1966.

Processing History

The papers of John Hays Hammond were arranged and described in 1969. The finding aid was revised in 2010.

Related Material

Two complementary collections in the Manuscript Division dealing with navel radio research and development are the John Lansing Callan and Stanford Caldwell Hooper papers.

Copyright Status

Access and Restrictions

The papers of John Hays Hammond are open to research. Researchers are advised to contact the Manuscript Reading Room prior to visiting. Many collections are stored off-site and advance notice is needed to retrieve these items for research use.

Preferred Citation

Researchers wishing to cite this collection should include the following information: Container number, John Hays Hammond Papers, Manuscript Division, Library of Congress, Washington, D.C.

Biographical Note

Date	***Event***
1888, Apr. 13	Born, San Francisco, Calif.
1905	Patented two-cycle scavenger engine
1910	Graduated, Yale University, New Haven, Conn.
1911	Established Hammond Radio Research Laboratory, Gloucester, Mass.
1912	Invented "electronic dog," a photosensitive homing device Performed research on intermediate frequency United States delegate to the International Radio-Telegraphic Conference, London, England
1914	Demonstrated high-speed radio control boat to United States Army Invented proximity fuse for torpedoes Invented thermite incendiary bomb *Natalia* (yacht) completed 120-mile trip controlled by Hammond's radio and gyroscopic system
1916-1918	Developed continuous wave superheterodyne receiver using intermediate frequency Worked on radio-controlled submerged torpedo
1919	Doctor of Science, George Washington University, Washington, D.C.
1921	Researched, developed, and developed a frequency modulation (FM) system
1922-1923	Developed a secure telephone communication system
1925-1926	Developed unicontrol superheterodyne
1927	United States delegate to International Radio Conference, Washington, D.C.
1943	Developed a variable pitch propeller for ships
1950	Invented "Telespot," a system for secure televsion trnasmission of classified data
1959	Awarded Elliot Cresson Medal, Franklin Institute, Philadelphia, Pa.
1952	Developed dynamic accentuator for music amplification and reproduction
1965, Feb. 12	Died, Gloucester, Mass.

Scope and Content Note

The papers of John Hays Hammond (1888-1965) consist primarily of correspondence, notebooks, sketches, technical papers, legal briefs, printed material, chronologies, and annotated photographs. The collection spans the period 1908-1965, with the bulk of the material falling between 1912 and 1953.

The collection is divided into four series: Notebooks, General Case File, Photographs, and Oversize. The Notebooks series, dated 1912-1918, contains reports by Hammond and his staff on experiments with radio control inventions. The General Case File represents the bulk of the collection. The third series, Photographs, includes detailed prints and negatives of Hammond's staff and radio equipment. Several of the technical prints have explanatory notes pointing out specific electrical components or design differences. The Oversize series contains a photograph album featuring the Hammond Research Library in Gloucester, Massachusetts.

Ellison S. Purington, Hammond's business associate and personal friend for over forty years who prepared these papers for transfer to the Library of Congress, arranged the materials in basic categories and included notes that point out significant segments of the collection. The addenda often provide background details not found in the documents.

Besides being a testimonial to Hammond's scientific ingenuity, the papers contain material on early twentieth-century radio developments. Seeking technical assistance, Hammond corresponded with Nikola Tesla, Alexander Graham Bell, Irving Langmuir, Ernst F. W. Alexanderson, Lee De Forest, and others. These letters describe not only Hammond's work, but also the research of those electronic pioneers. The correspondence with Alexander Graham Bell has added value because it partially describes his obscure activities in the development of the hydrofoil.

Certain case files are particularly useful in documenting Hammond's inventions. The file of A. M. Austin, Hammond's patent attorney, contains correspondence, original working sketches, and patent application papers dating from 1908 to 1913. The case file of Frederick Lowenstein includes detailed material on the controversial invention and use of the "audion" or triode electron tube. Other important case files cover topics such as intermediate frequency, frequency modulation (including the dispute over Edwin Armstrong's priority in its invention), the Elmer A. Sperry dispute on inertial guidance patents, and radio control. The radio control case file, the most complete in the collection, documents Hammond's basic experiments in radio control that led to his more important inventions of the intermediate frequency and frequency modulation.

Particular case files provide the scientific historian with valuable general information. A histories and chronologies file contains historical summaries, prepared by Hammond's staff, which outline the contributions of the Hammond Radio Research Laboratory and others in specific radio inventions such as the triode tube, frequency modulation and intermediate frequency. Hammond's thesis, "Telautomatics," is a detailed technical history of radio control research and development before 1912.

Arrangement of the Papers

This collection is arranged in four series:

- Notebooks, 1912-1918
- General Case File, 1908-1965
- Photographs, 1908-1955
- Oversize, 1908-1929

Description of Series

Container	*Series*
BOX 1-4	**Notebooks, 1912-1918** Reports and observations relating to experiments with radio control devices by Hammond and his staff Arranged by type of material. Notebooks are arranged numerically.
BOX 5-19	**General Case File, 1908-1965** Topical files relating to projects. Arranged alphabetically by project or correspondent.
BOX 19	**Photographs, 1908-1955** Photographs. Arranged by type or topic.
BOX OV 1	**Oversize, 1908-1929** Photograph album. Arranged and described according to the series, container, and folder from which it was removed.

Container List

Container	*Contents*
BOX 1-4	**Notebooks, 1912-1918**
	Reports and observations relating to experiments with radio control devices by Hammond and his staff
	Arranged by type of material. Notebooks are arranged numerically.
BOX 1	Hammond inventions, 1912-1913
	(2 folders)
BOX 1	Notebook no. 1, G. W. Pierce, J. P. Koehler, and others,
	1913-1914
	(2 folders)
BOX 1	Notebook no. 1a, J. P. Koehler,
	1914
	(2 folders)
BOX 2	Notebook no. 2, F. J. Behr, 1913-1914
BOX 2	Notebook no. 3, Hammond, undated
BOX 2	Notebook no. 4, J. W. Lee on *Natalia* (yacht) , 1914-1915
	(2 folders)
BOX 2	Notebook no. 4a, 1915
BOX 3	Notebooks nos. 7-9, 1913-14
BOX 3	Notebooks nos. 10, 10a, 11, 1913-14
BOX 3	Notebooks no. 14, unnumbered (G. W. Pierce) 1912-1915
BOX 3	Report on Control Point No. 1, 1913-1914
BOX 3	Report on Operating Room Torpedo, 1913-1914
BOX 4	Report of Radio Station, 1913-1914
BOX 4	Technical history of European trip, 1918
	(2 folders)
BOX 5-19	**General Case File, 1908-1965**
	Topical files relating to projects.
	Arranged alphabetically by project or correspondent.
BOX 5	Alexanderson, Ernst Fredrik Werner 1912-1958
	(2 folders)
BOX 5	Austin, A. M.
BOX 5	Correspondence, 1908-1913
	(2 folders)
BOX 5	Hammond notes and sketches, 1914-1917
BOX 5	Patent case file, 1911-1914
	(2 folders)
BOX 5	Automatic program selector radio, 1941-1942
BOX 6	Bell, Alexander Graham, 1914-1922
BOX 6	Birdseye, Clarence, 1951-1952
BOX 6	Bull, Anders, 1912

Container	*Contents*
BOX 6	Byrd, Richard Evelyn, 1955-1956
BOX 6	"Contributions of the Hammond Laboratories to the Electronics Industries," undated
BOX 6	De Forest, Lee 1912-1916, 1959
BOX 6	Donahue, Lester, 1937
BOX 6	Dynamic amplification, 1940, 1951
BOX 6	Eisenstein, S., 1911
BOX 6	Federal Telephone and Telegraph Co., 1911-1914
BOX 6	Fesseden, Reginald Aubrey, 1911-1917
BOX 7	Fleming, J. A., *"The Wonders of Wireless Telegraphy"*, and letter, 1912-1914
BOX 7	Foul weather light and "visible whistle," 1937-1941
BOX 7	Frequency modulation, 1921-1956, undated
	(4 folders)
BOX 8	Goldsmith, Alfred Norton. 1913-1957
BOX 8	Histories and chronologies, undated
BOX 8	*History of Communications Electronics in the United States Navy*
BOX 8	Book, 1965
BOX 8	Correspondence, 1956-1958
BOX 8	History of early developments in radio selectivity, 1911-1912
BOX 9	*The History of Intermediate Frequency*, Edward H. Loftin, 1938
BOX 9	Huth, Erich F., 1911
BOX 9	Institute of Radio Engineers, 1914
BOX 9	Intermediate frequency
BOX 9	Correspondence, 1911-1956
	(2 folders)
BOX 9	Print and near-print material, 1918-1920
BOX 10	Inventions by Hammond, undated
BOX 10	Langmuir, Irving, 1913-1956
BOX 10	London Radio-Telegraphic Conference, London, England, 1912
BOX 10	Lowenstein, Frederick, 1911-1913
	(3 folders)
BOX 10	Marconi Wireless Telegraph Co. of America, 1910-1924
BOX 11	Miessner, Benjamin F.
BOX 11	Miscellany, 1911-1956
BOX 11	Radio guidance and radio dynamics, books 1919, 1964
BOX 11	Mini-piano, 1937
	(2 folders)
BOX 11	Parapsychology, 1941-1951
BOX 11	Personal case file
BOX 11	Correspondence, 1909-1963
BOX 11	Honors and memberships, 1917-1930
BOX 11	National preparedness, 1915-1918
BOX 12	Photoelectric control systems, 1913-1914
BOX 12	Pickard, Greenleaf W., 1911-1913
BOX 12	Police radio system, Boston, Mass., 1932
BOX 12	Pupin, Michael Idvorsky, 1913
BOX 12	Radio control
BOX 12	Air torpedo, 1919

Container	*Contents*
BOX 12	Correspondence
BOX 12	1912-1918
	(2 folders)
BOX 13	1919-1941
BOX 13	Fortification Appropriation Bill, 1916
BOX 13	Hammond notes on radio dynamics, undated
BOX 13	Hammond system for torpedo fire control, undated
BOX 13	History of relations between Hammond and United States government regarding radio control, 1921
BOX 14	Radio dynamic torpedo control system, report to the Board of Ordnance and Fortifications, United States Army, 1914
BOX 14	Radio dynamic torpedo system, undated
BOX 14	Statement of Hammond before Hammond Torpedo Board, 1918
BOX 14	Sonodynamic research at Hammond Radio Research Laboratory, Gloucester, Mass, 1916-1919
BOX 15	Radio Corporation of America-Hammond agreement, 1923
BOX 15	"Theoretical Discussion of the Selective Signalling System of the Hammond Radio Research Laboratory," undated
BOX 15	Refrigeration by use of the Peltier effect, 1925
BOX 15	Ruhmer, Ernst, 1911-1912
BOX 15	Simon, Emil J., 1916
BOX 15	Sperry, Elmer Ambrose
BOX 15	Deposition, United States Patent Office, 1923
	(3 folders)
BOX 15	Miscellany, 1912-1925
BOX 15	Static problem, 1963
BOX 15	Stone, John Stone, 1913-1914, 1946
BOX 15	Swezey, Kenneth M., relating to Nikola Tesla 1956-1958
BOX 15	Synchonization for television and radio facsimile, 1927-1929
BOX 16	"Telautomics," 1912
BOX 16	(2 vols.)
BOX 17	(2 vols.)
BOX 18	Telefunken Wireless Telegraph Co. of the United States, 1910-1913
BOX 18	Telespot, 1949-1955
	(2 folders)
BOX 18	Tesla, Nikola, 1910-1914
BOX 18	United States Government
BOX 18	Hoover, J. Edgar, 1935
BOX 18	Use of Hammond patents, 1935-1946
BOX 18	*Hammond v. United States*, 1941
BOX 18	Wired-wireless telephone demonstration, 1919
BOX 18	Unicontrol super heterodyne, 1925
BOX 19	*Victory at Sea*, autographed by William Sowden Sims 1920
BOX 19	Wireless telegraphy interferences, 1911

Container	*Contents*
BOX 19	Zenneck, Jonathan Adolf Wilhelm, 1912-1913
BOX 19	**Photographs, 1908-1955** Photographs. Arranged by type or topic.
BOX 19	Radio apparatus made by the Hammond Radio Research Laboratory, album, undated
BOX 19	Unbound prints and negatives, 1919-1927, circa 1955
BOX 19	"Experimental Development," Hammond Research Laboratory, Gloucester, Mass., album, 1908-1929 (Container 19)
BOX OV 1	**Oversize, 1908-1929** Photograph album. Arranged and described according to the series, container, and folder from which it was removed.