



Smithsonian

National Air and Space Museum

William J. Hammer Collection

Mark Kahn, 2003; additional information added by Melissa A. N. Keiser, 2021

2003



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Collection Overview

Repository:	National Air and Space Museum Archives
Title:	William J. Hammer Collection
Date:	1881-1934 (bulk 1905-1915)
Identifier:	NASM.XXXX.0074
Creator:	Hammer, William J. (William Joseph), 1858-1934 (electrical engineer)
Extent:	5.66 Cubic feet (13 boxes)
Language:	English .
Summary:	<p>The collection is the result of Major Hammer's passion for amassing material related to aeronautics and technology, and it is arranged into eleven series: articles, clippings, correspondence, drawings and blueprints, leaflets, legislation, minutes, miscellaneous, photographs, programs and publications. Housed in 23 folders, the correspondence is the most comprehensive series, reflecting the original order which grouped the letters into series by topic. Much of the correspondence concerns the planning of the Hudson-Fulton Celebration of 1909, and the involvement of Wilbur Wright and Glenn Curtiss. There is also a scrapbook of black and white photographs providing front and side views of specified airplanes. Each page has 3 photos showing different views of the same plane accompanied by a label with additional information. (See written copy for details. Also, please see information written on 8x11 notebook paper.)</p>

Administrative Information

Acquisition Information

IBM (Mr. William J. Hammer Collection), gift, 1961, XXXX-0074, not NASM

Processing Information

Finding aid prepared by Mark Kahn, 2003.

Finding aid encoded by Elizabeth Bauerle, 2011.

Information on Very Large Format Materials added by Melissa A. N. Keiser, 2021.

Preferred Citation

William J. Hammer Collection, Acc. NASM.XXXX.0074, National Air and Space Museum, Smithsonian Institution.

Restrictions

No restrictions on access

Conditions Governing Use

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Biographical Note

William J. Hammer was born in Cressona, Pennsylvania, on February 26, 1858, was an associate of Thomas Edison and an early aviation supporter and enthusiast. He began his career as an assistant to Edward Weston of the Weston Malleable Nickel Company. In 1879, he moved on to a new position as laboratory assistant to Thomas Edison at Menlo Park, New Jersey. His duties ranged from aiding in conducting experiments on such devices as the phonograph, telephone and ore separator to acting as Edison's key person in further developing the incandescent electric lamp. By 1880, he was made chief engineer of the Edison Lamp Works. A year later, Edison dispatched Hammer to London to be chief engineer of the English Electric Light Company. In this position, he helped construct the Holborn Viaduct Central Electric Light Station in London. This was the first central station ever built for incandescent electric lighting. In 1883, Hammer became chief engineer for the German Edison Company. This task included planning and supervising the construction of all Edison plants in Germany. He returned to the United States late in the following year and acted as chief inspector of central stations of the parent Edison Electric Light Company. In 1886-87, Hammer was general manager and chief engineer of the Boston Edison Electric Illuminating Company. In 1888, he worked as an independent engineer and supervised the completion of the then-largest isolated electric lighting plant, located at the Ponce de Leon Hotel in St. Augustine, Florida. During that year, Hammer also was chosen as consulting electrical engineer to the Cincinnati Centennial Exposition. Subsequently, Edison selected him as his personal representative to the Paris Exposition of 1889. This assignment rounded out Hammer's eleven years with Edison. During his time as one of Edison's most trusted and important employees, Hammer devised a number of innovations to the incandescent electric lamp. He designed and built the first electric sign, which spelled out the name "Edison". While in Germany, he invented the automatic motor-driven flashing electric lamp sign. This particular sign flashed the word "Edison" letter by letter and then all at once. At the International Electrical Exhibition, held in Philadelphia in 1884, Hammer also constructed the first flashing column of electric lights.

Upon his return to the U.S. in 1890, Hammer worked as an independent consulting electrical engineer by assisting in a variety of electrical projects, carrying out tests, giving lectures and providing expert testimony in patent disputes. He based this modest enterprise in an office in New York City and continued in this occupation until 1925. His career as an electrical engineering consultant was interrupted by World War I. In June 1918, he was commissioned a major in the U.S. Army. He was assigned to the Inventions Section of the War Plans Division of the General Staff in charge of Aeronautical and Electrical Inventions at the Army War College, Washington, D.C.. By December of that year, he was attached to the Operations Division General Staff at the War Department (Inventions Section). During the war and on into 1919, Hammer also worked for the U.S. Patent Office by identifying any aviation-related patents likely to convey too much information to potential enemies. In conjunction with his War Department duties, he acted as a member of the Advisory Board of Experts affiliated with the Alien Property Commission.

Busy as he was with his private consulting work, Hammer also immersed himself in other scientific activities. He took a particular interest in radium after visiting Pierre and Marie Curie in Paris in 1902. The two discoverers of radium gave him some samples of this substance. Soon after returning to the United States, Hammer experimented with radium. His research yielded numerous useful applications for this material such as radium-luminous powders and paints that were used to coat everything from watch and clock dials to aeronautical instruments, switches and toys. Hammer also advocated the use of radium for cancer and tumor treatment. Beyond his interest in this material, he invented selenium light-sensitive cells and recommended many practical uses for them. He also conducted a great deal of laboratory work on X-rays, ultraviolet and cathode rays, phosphorescence and wireless communications. Accordingly, he lectured and published extensively on many of these fields of research and study.

Hand in hand with his overall interest in science and technology, Hammer had a particular passion for aeronautics. Beyond paying careful attention to the rapid progress made in this field at the turn of the twentieth century, he also

played an active role as participant and supporter. He made his first balloon flight over France during the Paris Exposition of 1889. His last lighter-than-air journey took place in 1931 aboard the U.S. Navy dirigible Los Angeles. Moreover, he attended and officiated over many balloon, airship and airplane exhibitions and races. Hammer was a member of the Aero Club of America and a director of the Aeronautical Society. This latter group made the first ever purchase of an airplane in January 1909. He served as expert and secretary of the Aeronautics Committee on the Hudson-Fulton Celebration Commission of 1909 and wrote the contracts for Wilbur Wright and Glenn Curtiss to fly their airplanes for this event. This occasion in New York was important as it marked the first time a large gathering of people in the U.S. witnessed heavier-than-air powered flight. As a friend of the Wright brothers, Hammer testified as an expert witness on their behalf during various patent litigation suits. His contact with aviation pioneers went beyond the Wrights and Curtiss. He also knew and interacted with, among others, Samuel Langley, Alberto Santos-Dumont, Henri Farman and Count Ferdinand von Zeppelin. Even his work with radium had applications for aviation. Hammer developed radium-based luminous compounds and used them on aircraft instruments so pilots could more easily view their cockpits' dials and gauges.

Hammer's last years were filled with serving as Historian General of the Military Order of the World War, as well as participating in many scientific, engineering and aeronautical committees and societies. During this time, he was the recipient of numerous honors and awards, including the Elliott Cresson Gold Medal, John Scott Medal from the Franklin Institute and the Cross of the Legion of Honor from France. Up until his death on March 24, 1934, he also labored in his efforts to organize a vast personal collection of rare and valuable scientific artifacts, photographs and other materials accumulated since his days with Edison. Following Hammer's death, this important collection was left in the care of his daughter Mabel (his wife of twelve years, Alice, having died in 1906). Some years later, International Business Machines (IBM) acquired it. In 1962, IBM donated the William J. Hammer Scientific Collection to the Smithsonian Institution. The bulk of the collection resides with the National Museum of American History's Archives Center. In the mid 1980s, the aeronautical portion of this collection was transferred to the National Air and Space Museum (NASM) Archives.

Scope and Contents

The William J. Hammer Collection reflects Hammer's great interest in aeronautics --a passion he cultivated for several decades by accumulating a veritable storehouse of materials. Hammer's important contributions to the early development of aviation are also evident in this collection.

The collection of materials listed in the finding aid is arranged into two series. The first series includes correspondence, reports, handbooks, drawings, brochures, programs, leaflets, magazines, articles, newspaper clippings and miscellaneous materials. The second series is comprised of photographs of various sizes, scrapbooks, scrapbook pages and miscellaneous materials (the front pages of newspapers, certificates, posters, etc.).

Hammer's papers are arranged both chronologically and alphabetically. Correspondence, drawings, brochures, programs, leaflets, miscellaneous materials, scrapbook pages, articles and newspaper clippings are organized by the former method. Reports, handbooks, magazines and booklets are grouped alphabetically by either title of publication or author. Photographs are arranged either by subject or chronologically.

The reader should note that at some point, Hammer produced a series of large format photographs. These mounted photographs are duplicates. Due to the very fragile condition of these particular images, the photographs are not available to researchers.

Additional photographic material regarding Hammer Collection photographs can be found in the NASM Archives Images database. An Archives staff member will assist you with research using this database.

Box 13 of the William J. Hammer Collection has not been scanned.

Note: The digital images in this finding aid were repurposed from scans made by an outside contractor for a commercial product and may show irregular cropping and orientation in addition to color variations resulting from damage to and deterioration of the original objects.

Arrangement

The William J. Hammer Collection is arranged by content type.

Names and Subject Terms

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

Subjects:

- Aeronautics
- Aeronautics -- 1903-1916
- Aeronautics -- Exhibitions
- Periodicals

Types of Materials:

- Correspondence
- Drawings
- Manuscripts
- Photographs
- Publications
- Scrapbooks

Names:

- Curtiss, Glenn Hammond, 1878-1930
- Hammer, William J. (William Joseph), 1858-1934 (electrical engineer)
- Hudson-Fulton Celebration (1909)
- Wright, Wilbur, 1867-1912

Container Listing

Series 1: Professional materials

Arrangement: Correspondence, drawings, brochures, programs, leaflets, miscellaneous materials, scrapbook pages, articles and newspaper clippings are arranged chronologically. Reports, handbooks and magazines are organized alphabetically by title while booklets are arranged alphabetically by author.

Scope and Contents: This series includes correspondence, reports, handbooks, drawings, brochures, programs, leaflets, magazines, articles, newspaper clippings and miscellaneous materials.

Subseries 1.1: Correspondence, June 1892 - July 1916

Box 1, Folder 1	Correspondence, Hammer and Hiram Maxim, June 1892 - March 1893
Box 1, Folder 2	Correspondence, Hammer and the War Department, April 1898
Box 1, Folder 3	Correspondence, Hammer and Samuel P. Langley, March - April 1901
Box 1, Folder 4	Correspondence, Hammer and Wilbur Wright, March 1906 - January 1912
Box 1, Folder 5	Correspondence, Hammer and Hudson Maxim, March - September 1908
Box 1, Folder 6	Correspondence, Hammer and the Hudson-Fulton Celebration Commission, April 1908 - June 1909
Box 1, Folder 7	Correspondence, Hammer and Henry Farman, August 1908 - October 1909
Box 1, Folder 8	Correspondence, Hammer and the Aeronautical Society, November 1908 - July 1933
Box 1, Folder 9	Correspondence, Hammer and the Aeronautical Society, April - July 1909
Box 1, Folder 10	Correspondence, gold medals presented to the Wrights at the White House, Washington, D.C., June 1909
Box 1, Folder 11	Correspondence, Hammer and balloon flight activities, July - September 1909
Box 1, Folder 12	Correspondence, Hammer and the Hudson-Fulton Celebration Commission, January - July 1909
Box 1, Folder 13	Correspondence, Hammer and airplane sheds for the Hudson-Fulton Celebration, July - October 1909
Box 1, Folder 14	Correspondence, Hammer and Wright participation in the Hudson-Fulton Celebration, July 1909 - September 1909

Box 1, Folder 15	Correspondence, James Beck's trip to Europe on Hudson-Fulton Celebration Commission business, August - September 1909
Box 1, Folder 16	Correspondence, participation of Glenn Curtiss in the Hudson-Fulton Celebration, August - September 1909
Box 1, Folder 17	Correspondence, press passes, press releases and prizes given during Hudson-Fulton Celebration, August 1909 - October 1909
Box 1, Folder 18	Correspondence, signal flags for the Hudson-Fulton Celebration, September - October 1909
Box 1, Folder 19	Correspondence, Wilbur Wright's flight of October 4, 1909 during Hudson-Fulton Celebration, September - October 1909
Box 2, Folder 1	Correspondence, balance due Wilbur Wright, Hudson-Fulton Celebration, October - December 1909
Box 2, Folder 2	Correspondence, conflict between Glenn Curtiss and Hudson-Fulton Celebration Commission, October - December 1909
Box 2, Folder 3	Correspondence, official business, Hudson-Fulton Celebration Commission, October - November 1909
Box 2, Folder 4	Correspondence, miscellaneous matters relating to aeronautics, January - June 1910
Box 2, Folder 5	Correspondence, Wright lawsuit against Curtiss, February 1910 - January 1916

Subseries 1.2: Reports

Arrangement: Reports are arranged alphabetically by title.

Box 2, Folder 6	Report of American Aviation Mission, August 1919
Box 2, Folder 7	Dynamical Stability of Aeroplanes, Jerome C. Hunsaker, Smithsonian Institution, Vol. 62, No. 5, June 30, 1916 Image(s): Experimental Research on Air Propellers, II, William F. Durand and E. P. Lesley, National Advisory Committee for Aeronautics (NACA), no. 30
Box 2, Folder 8	Experimental Research on Air Propellers, II, William F. Durand and E. P. Lesley, National Advisory Committee for Aeronautics (NACA), No. 30, 1919 Image(s): Hydromechanic Experiments with Flying Boat Hulls, H. C. Richardson, Smithsonian Institution, vol. 62, no. 2 Notes: The first 23 pages of report were not copied.
Box 2, Folder 9	Hydromechanic Experiments with Flying Boat Hulls, H. C. Richardson, Smithsonian Institution, vol. 62, no. 2, April 20, 1914

Box 2, Folder 10	Lord Rayleigh on Flight, Smithsonian Institution, 1901
Box 2, Folder 10A	Memorandum on Naval and Military Aviation, War Office (UK), 1912
Box 2, Folder 11	Recent Progress in the Science of Aeronautics, Joseph S. Ames, The Franklin Institute, Philadelphia, Pennsylvania, September 1924
Box 2, Folder 12	Scientific Problems of the Future, H. Elsdale, Smithsonian Institution, no. 1026, 1896
Box 2, Folder 13	The First Man-Carrying Aeroplane Capable of Sustained Free Flight: Langley's Success as a Pioneer in Aviation, A. F. Zahm, Smithsonian Institution, publication 2329, 1915
Box 2, Folder 14	The Present Status of Military Aeronautics, George O. Squier, The American Society of Mechanical Engineers, December 1908
Box 2, Folder 15	The Zeppelin Air Ship, Thomas E. Curtis, Smithsonian Institution, no. 1270, 1901

Subseries 1.3: Handbooks

Arrangement: Handbooks are arranged alphabetically by title.

Box 2, Folder 16	The Aeronautical Society of America, The Aeronautic Society, (bulk 1909, 1914)
Box 2, Folder 17	Aero Club of America, 1906
Box 2, Folder 18	Constitution and By-Laws of The Aeronautical Society, The Aeronautical Society, 1909
Box 2, Folder 19	Rough Draft of Proposed Constitution and By-Laws of the Aeronautical Federation of America and the American Aeronautical Federation, June 22, 1910
Box 2, Folder 20	Handbook of the National Aircraft Collection, Smithsonian Institution, January 1932
Box 2, Folder 21	National Council of the Aero Club of America, Constitution and By-Laws, Aero Club of America, 1910
Box 2, Folder 22	Re Wright-Aero Club Agreement, Aero Club of America, April 21, 1910

Subseries 1.4: Blueprints and drawings of Benoist, Bleriot and miscellaneous aircraft

Arrangement: Blueprints and drawings of Benoist, Bleriot and miscellaneous aircraft are arranged chronologically.

Box 2, Folder 23	Blueprints, drawings, notes and articles, miscellaneous aircraft, 1908-1918
Box 2, Folder 24	Blueprints and drawings, early aircraft designs, 1909-1918 Notes: Most folder contents were not copied.

Box 2, Folder 25 Blueprints, Benoist aircraft, 1913
Notes: Folder contents were not copied.

Box 2, Folder 26 Blueprints and drawings, Bleriot aircraft, undated
Notes: Folder contents were not copied.

Subseries 1.5: Brochures

Arrangement: Brochures are arranged chronologically.

Box 3, Folder 1 [Humber Aeroplanes, Humber, Ltd., 1910](#)

Box 3, Folder 2 [Classes in Aviation and Aeronautics, Motor Schools, Ltd., 1911](#)

Box 3, Folder 3 [The International School of Aeronautics, The International School of Aeronautics, circa 1912](#)

Box 3, Folder 4 [Boland Aeroplane and Motor Company, Boland Aeroplane and Motor Company, 1914](#)

Box 3, Folder 5 [The Story of the Airplane, Wright-Martin Aircraft Corporation, 1917](#)

Box 3, Folder 6 [The Miessner Airfone, Emil J. Simon, 1919](#)

Box 3, Folder 7 [America-Europe via North Atlantic Airways over the Armstrong Seadrome System of Commercial Ocean Transit by Airplane, The Armstrong Seadrome Development Company, 1927](#)

Box 3, Folder 8 [It's Easy to Fly, Standard Oil Company of New York, 1930](#)

Box 3, Folder 9 [Air Transport Facts, Aeronautical Chamber of Commerce of America, Inc., 1933](#)

Subseries 1.6: Programs

Arrangement: Programs are arranged chronologically.

Box 3, Folder 10 [Seventh Annual Automobile Club of America Show, American Motor Car Manufacturers' Association, December 1-8, 1906](#)

[Aeronautic Society Exhibition and Tournament and Championship Motorcycle Races, November 3, 1908](#)

Box 3, Folder 11 [Program, meeting minutes, articles and newspaper clippings, Hudson-Fulton Celebration, New York, 1909](#)

Box 3, Folder 12 [International Aviation Tournament, Belmont Park, New York, Aero Club of America, October 22-30, 1910](#)

Box 3, Folder 13	First Aerial Derby, London Aerodrome, London, England, The Grahame-White Aviation Company, Ltd., June 8, 1912
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Subseries 1.7: Leaflets

Arrangement: Leaflets are arranged chronologically.

Box 3, Folder 14	Resolution regarding success of the Wright brothers, Aero Club of America, 1906
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Box 3, Folder 15	How I Became an Aviator, Henri Farman, circa 1909
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Box 3, Folder 16	Lane's Gliding School, Lane's Gliding School, circa 1909
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Box 3, Folder 17	Leaflets and handbooks, The Aeronautical Society, 1911-1920
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Box 3, Folder 18	A Memorial Against the Use of Armed Airships, International Arbitration League, February 1912
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Box 3, Folder 19	Leaflets and brochures, Institute of the Aeronautical Sciences, 1933-1934
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Subseries 1.8: Magazines

Arrangement: Magazines are arranged alphabetically by title of publication and then chronologically.

Box 3, Folder 20	Aeronautic Review, National Aeronautic Association of the U.S.A., vol. 6, no. 8, August 1928
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Box 3, Folder 21	Aeronautical Journal, Royal Aeronautical Society, vol. 25, no. 132, December 1921
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Box 3, Folder 22	Aeronautics, Aeronautics Press, vol. 12, no. 67, March 1913
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Box 3, Folder 23	Flugsport, Flugwesen, vol. 4, no. 6, March 1912
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Box 3, Folder 24	Journal of the Aeronautical Sciences, Institute of the Aeronautical Sciences, vol. 1, no. 1, January 1934 Image(s): Journal of the Aeronautical Sciences, Institute of the Aeronautical Sciences, vol. 1, no. 1
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Box 3, Folder 25	Journal of the Aeronautical Society of America, Aeronautical Society, vol. 1, no. 5-6, May-June, 1916 - vol. 2, no. 19, September 1917
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Box 3, Folder 26	Journal of the Franklin Institute, Franklin Institute, vol. 210, no. 5, November, 1930
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Box 3, Folder 27	National Geographic Magazine, National Geographic Society, vol. 33, no. 1, January 1918
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Box 3, Folder 28	U.S. Air Service, Air Service Publishing Company, Inc., vol. 8, no. 12, December 1923
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Box 3, Folder 29	U.S. Air Services, Air Service Publishing Company, Inc., vol. 19, no. 11, November 1934
Box 3, Folder 30	U.S. Air Services, Air Service Publishing Company, Inc., vol. 20, no. 5, May 1935
Box 3, Folder 31	War of the Nations, George Newnes, Ltd., London, vol. 7, no. 87, April 27, 1918

Subseries 1.9: Booklets

Arrangement: Booklets are arranged alphabetically by author.

Box 3, Folder 32	Anderson, Jane, and Bruce, Gordon. Flying, Submarining and Mine Sweeping. London: Sir Joseph Causton & Sons, Ltd., 1916
Box 3, Folder 33	Hammer, William J. A Flight over Paris. New York: Aero Club of America and Doubleday, Page & Company, undated
Box 3, Folder 34	Maxim, Hudson, and Hammer, William J. Chronology of Aviation. New York: reprinted from World's Almanac for 1911, 1912, 1912
Box 3, Folder 35	Mouillard, L. The Empire of the Air - An Ornithological Essay on the Flight of Birds, Paris, 1881

Subseries 1.10: Miscellaneous materials

Arrangement: Miscellaneous materials are arranged chronologically. These items include catalogs, proceedings and a menu from a dinner honoring Glenn Curtiss.

Box 4, Folder 1	Badges, passes and tickets for aeronautical exhibitions, 1908-1931
Box 4, Folder 2	Proceedings, meetings of the Aeronautical Society, November-December 1909
Box 4, Folder 3	Menu, dinner in honor of Glenn Curtiss, Hotel Astor, New York, May 31, 1910
Box 4, Folder 4	Prospectus, Grahame-White, Bleriot & Maxim, Ltd., 1911
Box 4, Folder 5	Catalog, Aeronautical Supplies, E.J. Willis Company, 1912
Box 4, Folder 6	Certificate, University of the State of New York, provisional charter, Thomas School of Aviation, February 20, 1913 Notes: [photostat]
Box 4, Folder 7	Catalog and drawings, Ideal Model Aeroplanes and Supplies, 1914-1915, Ideal Aeroplane & Supply Company, New York, 1914
Box 4, Folder 8	Poster, British-German aircraft recognition, 1915
Box 4, Folder 9	Color reproduction print, The Aerial Transit Company's Station, November 17, 1917

Notes: (original made in 1843 of Henson's airplane --never built)

Box 4, Folder 10	Speech, The Passing of America's Greatest Opportunity, Thomas A. Hill, Aeronautical Society, New York, January 15, 1918
Box 4, Folder 11	U.S. House of Representatives bill, H.R. 7925, To Establish the Department of Aeronautics, and for Other Purposes, 66th Congress, 1st Session, July 28, 1919
Box 4, Folder 12	Proceedings, meeting of the first National Air Institute, Detroit Aviation Society, Board of Commerce building, Detroit, Michigan, October 11, 1922
Box 4, Folder 13	U.S. House of Representatives bill, H.R. 3243, To Create a Bureau of Civil Aeronautics in the Department of Commerce, 68th Congress, 1st Session, December 13, 1923
Box 4, Folder 14	Manuscript drafts, life of William J. Hammer, Fred Hatch, 1965
Box 4, Folder 15	Notes, miscellaneous, William J. Hammer, undated
Box 4, Folder 16	Preliminary injunction, the Wright Company versus Louis Paulhan, Circuit Court of the United States, Southern District of New York, undated

Subseries 1.11: Articles and newspaper clippings

Arrangement: Articles and newspaper clippings are arranged chronologically.

Box 4, Folder 17	Articles, miscellaneous [1], 1901-1942
Box 4, Folder 18	Articles, miscellaneous [2], 1901-1942
Box 4, Folder 19	Articles, miscellaneous [3], 1901-1942
Box 4, Folder 20	Articles, miscellaneous [4], 1901-1942
Box 4, Folder 21	Articles, miscellaneous [5], 1901-1942
Box 5, Folder 1	Newspaper clippings, miscellaneous, 1892-1928
Box 5, Folder 2	Newspaper clippings, miscellaneous, 1904-1923
Box 5, Folder 3	Newspaper clippings, Hudson-Fulton Celebration, 1909
Box 5, Folder 4	Newspaper clippings and articles, miscellaneous, 1910-1929
Box 5, Folder 5	Newspaper clippings, death of Wilbur Wright, 1912
Box 5, Folder 6	Newspaper clippings and articles, U.S. racing aircraft, 1929-1954

Box 5, Folder 7

Hammer Collection [miscellaneous news clippings], Undated
[Image\(s\): Hammer Collection](#)

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Series 2: Photographs and other materials

Scope and Contents: Items in this series include photographs, newspapers, scrapbooks, posters, and oversize newspaper clippings.

Subseries 2.1: Photographs [document boxes]

Arrangement: Photographs in this section are arranged alphabetically by subject.

Box 6, Folder 1	Aero Club of France statue to the Wright brothers, undated Notes: (only a fragment of the original photograph)
Box 6, Folder 2	Aircraft, miscellaneous, circa 1909-1914
Box 6, Folder 3	Aircraft-related oddities, undated
Box 6, Folder 4	Airships, miscellaneous, undated
Box 6, Folder 5	Antoinette aircraft, undated
Box 6, Folder 6	Aviators, miscellaneous, undated
Box 6, Folder 7	Aviatrices, miscellaneous, undated
Box 6, Folder 8	Beach-Whitehead aircraft, undated
Box 6, Folder 9	Benoist aircraft, undated
Box 6, Folder 10	Blanchard aircraft, undated
Box 6, Folder 11	Bleriot aircraft, undated
Box 6, Folder 12	Bleriot influence on aircraft design, circa 1909-1910
Box 6, Folder 13	Burgess aircraft, undated
Box 6, Folder 14	Curtiss, Glenn H. and his aircraft, undated
Box 6, Folder 15	Early Birds of Aviation, undated
Box 6, Folder 16	Etrich-Aerolimousine aircraft, undated
Box 6, Folder 17	Farman aircraft, undated
Box 6, Folder 18	Gliders and airplanes not chosen for exhibit, unspecified
Box 6, Folder 19	Goodyear racing balloons, 1911-1913

Box 6, Folder 20	Hammer, William J., undated
Box 6, Folder 21	Heinrich aircraft, undated
Box 6, Folder 22	Hinton, Walter, March 3, 1926
Box 6, Folder 23	Jannus brothers' aircraft, undated
Box 6, Folder 24	Langley Aerodrome, May 6, 1896
Box 6, Folder 25	Langley Aerodrome aircraft, 1914 test flights, Hammondsport, New York, 1914
Box 6, Folder 26	Maxim, Hiram S. and his experimental aircraft and equipment, 1892-1893
Box 6, Folder 27	McKay Trophy, awarded to Henry H. Arnold, first recipient, 1912
Box 6, Folder 28	Moisant aircraft, undated
Box 6, Folder 29	Montgomery aircraft, 1905
Box 6, Folder 30	Morane aircraft, undated
Box 6, Folder 31	Nieuport aircraft, undated
Box 6, Folder 32	Perkins man-lifting kites, Boston, Massachusetts, September 3 - September 15, 1910
Box 6, Folder 33	Ruiz, Horacio, Mexican Army, undated
Box 6, Folder 34	Walden aircraft, undated
Box 6, Folder 35	Wright aircraft, circa 1900-1913
Box 6, Folder 36	Wright brothers, circa 1908-1911
Box 6, Folder 37	Wright, Wilbur, in flight, Hudson-Fulton Celebration, New York, 1909

Subseries 2.2: Photographs [11 x 15 inch flat boxes]

Scope and Contents: Photographs in this section are mounted on 15" by 11" cardboard backing.

Contents:

Arrangement: Photographs in this section are arranged chronologically by event and stored in 11 x 15 x 3 inch flat boxes. Due to size and condition, each photograph is housed in its own folder; these folder titles reflect the original captions written on the photographs.

Box 7, Folder 1	Balloon trip made from Paris, France, by William J. Hammer, November 1889
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Box 7, Folder 2	Balloon trip made from Paris, France, by William J. Hammer, November 1889
Box 7, Folder 3	Balloon trip made from Paris, France, by William J. Hammer, November 1889
Box 7, Folder 4	Balloon trip made from Paris, France, by William J. Hammer, November 1889
Box 7, Folder 5	Coast survey chart of locality of the Aerodrome flights at Quantico, on the Potomac, November 28, 1896
Box 7, Folder 6	Count Zeppelin's balloon [dirigible], Switzerland, July 1900
Box 7, Folder 7	Count Zeppelin's balloon [dirigible], Switzerland, July 1900
Box 7, Folder 8	Count Zeppelin's balloon [dirigible], Switzerland, July 1900
Box 7, Folder 9	International Aeronautical Congress, French government ballooning headquarters, Meudon, France, September 1900
Box 7, Folder 10	International Aeronautical Congress, French government ballooning headquarters, Meudon, France, September 1900
Box 7, Folder 11	International Aeronautical Congress, French government ballooning headquarters, Meudon, France, September 1900
Box 7, Folder 12	International Aeronautical Congress, French government ballooning headquarters, Meudon, France, September 1900
Box 7, Folder 13	Visit of International Aeronautical Congress to French government war balloon headquarters, Meudon, France, September 1900
Box 7, Folder 14	Visit of International Aeronautical Congress to French government war balloon headquarters, Meudon, France, September 1900
Box 7, Folder 15	Visit of International Aeronautical Congress to French government war balloon headquarters, Meudon, France, September 1900
Box 7, Folder 16	Visit of International Aeronautical Congress to French government war balloon headquarters, Meudon, France, September 1900
Box 7, Folder 17	Visit of International Aeronautical Congress to French government war balloon headquarters, Meudon, France, September 1900
Box 7, Folder 18	Visit of International Aeronautical Congress to French government war balloon headquarters, Meudon, France, September 1900
Box 7, Folder 19	Visit of delegates to the International Aeronautical Congress to French government war balloon headquarters, Meudon, September 1900

Box 7, Folder 20	First National Exhibition of Aerial Craft, Boston, February 16 - 23, 1910
Box 8, Folder 1	Professor Samuel P. Langley observing demonstration of Alberto Santos-Dumont's airship, Saint-Cloud, France, September 1900 Image(s): Santos-Dumont's Dirigible Balloon at Saint-Cloud - Visit of International Aeronautical Engineers
Box 8, Folder 2	Professor Samuel P. Langley observing demonstration of Alberto Santos-Dumont's airship, Saint-Cloud, France, September 1900
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Box 8, Folder 8	Santos-Dumont's dirigible balloon demonstration for Samuel Langley, Saint-Cloud, France, September 21, 1900
Box 8, Folder 9	Santos-Dumont's dirigible balloon and hangar, Saint-Cloud, France, September 21, 1900
Box 8, Folder 10	Captive balloon, Vincennes Annex, Paris Exposition, September 1900
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Box 8, Folder 12	Carrier Pigeons, International Aeronautical Congress, Vincennes Annex, Paris Exposition, September 16, 1900
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Box 8, Folder 14	International balloon contests, Vincennes Annex, Paris Exposition, August 1900
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Box 8, Folder 16	International balloon contests, Vincennes Annex, Paris Exposition, September 1900

Box 8, Folder 17	International balloon contests, Vincennes Annex, Paris Exposition, September 1900
Box 8, Folder 18	International balloon contests, Vincennes Annex, Paris Exposition, September 1900
Box 9, Folder 1	International balloon contests, Vincennes Annex, Paris Exposition, September 1900
Box 9, Folder 2	International balloon contests, Vincennes Annex, Paris Exposition, September 1900
Box 9, Folder 3	International balloon contests, Vincennes Annex, Paris Exposition, September 1900
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Box 9, Folder 6	International balloon contests, Vincennes Annex, Paris Exposition, September 1900
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Box 9, Folder 8	International balloon contests, Vincennes Annex, Paris Exposition, September 1900
Box 9, Folder 9	International balloon contests, Vincennes Annex, Paris Exposition, September 1900
Box 9, Folder 10	International balloon contests, Vincennes Annex, Paris Exposition, September 1900
Box 9, Folder 11	International balloon contests, Vincennes Annex, Paris Exposition, September 1900
Box 9, Folder 12	International balloon contests, Vincennes Annex, Paris Exposition, September 1900
Box 9, Folder 13	International balloon contests, Vincennes Annex, Paris Exposition, September 1900
Box 9, Folder 14	International balloon contests, Vincennes Annex, Paris Exposition, September 1900
Box 9, Folder 15	International balloon contests, Vincennes Annex, Paris Exposition, September 1900
Box 9, Folder 16	International balloon contests, Vincennes Annex, Paris Exposition, September 1900
Box 10, Folder 1	International balloon contests, Vincennes Annex, Paris Exposition, September 1900
Box 10, Folder 2	International balloon contests, Vincennes Annex, Paris Exposition, September 1900
Box 10, Folder 3	International balloon races, Vincennes Annex, Paris Exposition, September 1900
Box 10, Folder 4	International balloon races, Vincennes Annex, Paris Exposition, September 1900
Box 10, Folder 5	International balloon races, Vincennes Annex, Paris Exposition, September 1900
Box 10, Folder 6	International balloon races, Vincennes Annex, Paris Exposition, September 1900

Box 10, Folder 7	International balloon races, Vincennes Annex, Paris Exposition, September 1900
Box 10, Folder 8	International balloon races, Vincennes Annex, Paris Exposition, September 1900
Box 10, Folder 9	International balloon races, Vincennes Annex, Paris Exposition, September 1900
Box 10, Folder 10	International balloon races, Vincennes Annex, Paris Exposition, September 1900
Box 10, Folder 11	International balloon races, Vincennes Annex, Paris Exposition, September 1900
Box 10, Folder 12	International balloon races, Vincennes Annex, Paris Exposition, September 1900
Box 10, Folder 13	International balloon races, Vincennes Annex, Paris Exposition, September 1900
Box 10, Folder 14	International balloon races, Vincennes Annex, Paris Exposition, September 1900
Box 10, Folder 15	The Exploring Balloon, International Aeronautical Congress, Vincennes Annex, Paris Exposition, September 1900
Box 11, Folder 1	Vincennes Annex of Paris Exposition, September 1900
Box 11, Folder 2	Visit of International Aeronautical Congress to Vincennes Annex, Paris Exposition, September 1900
Box 11, Folder 3	Visit of International Aeronautical Congress to Vincennes Annex, Paris Exposition, September 1900
Box 11, Folder 4	Visit of International Aeronautical Congress to Vincennes Annex, Paris Exposition, September 1900
Box 11, Folder 5	Langley Aerodrome immediately after launching on Potomac River near Widewater, Virginia, October 7, 1903
Box 11, Folder 6	Langley Aerodrome on launching ways over Potomac river near Widewater, Virginia, October 7, 1903
Box 11, Folder 7	Langley Aerodrome on launching ways over Potomac river near Widewater, Virginia, October 7, 1903
Box 11, Folder 8	Benbow dirigible, St. Louis Exposition, 1904
Box 11, Folder 9	Benbow dirigible, St. Louis Exposition, 1904
Box 11, Folder 10	Benbow dirigible, St. Louis Exposition, 1904
Box 11, Folder 11	Captive balloon, St. Louis Exposition, 1904
Box 11, Folder 12	Hippolyte François' Prosper-Lambert dirigible, St. Louis Exposition, 1904

Image(s): Francois Prosper-Lambert dirigible, St. Louis Exposition

Box 11, Folder 13 Hudson-Fulton Celebration, New York, 1909

Box 11, Folder 14 Aviation Meet, Asbury Park, New Jersey, August 11, 1910

Box 11, Folder 15 Aviation medals display, undated

Subseries 2.3: Scrapbooks [16 x 20 inch flat box]

Arrangement: Scrapbooks are arranged chronologically.

Box 12, Folder 1 Album, photographs from the Paris Exposition, September 1900

Box 12, Folder 2 Scrapbook, miscellaneous pamphlets, handbooks and journals of the Aeronautical Society, 1907-1917

Box 12, Folder 3 Scrapbook, miscellaneous newspaper clippings, 1909

Box 12, Folder 4 Scrapbook, miscellaneous photographs of World War I aircraft, July 1919

Box 12, Folder 5 Miscellaneous photographs, postcards and ephemera

Subseries 2.4: Photographs [20 x 24 inch flat box]

Arrangement: Photographs (24" by 20", mounted) are arranged chronologically.

Scope and Photographs: 24" by 20", mounted.

Contents:

Box 13, Folder 1 Paris balloon exposition, 1889
Notes: Folder contents were not copied.

Box 13, Folder 2 Unmanned Langley Aerodrome, May 6, 1896
Notes: Folder contents were not copied.

Box 13, Folder 3 Unmanned Langley Aerodrome, May 6, 1896
Notes: Folder contents were not copied.

Box 13, Folder 4 The Balloon Farm, 1907
Notes: Folder contents were not copied.

Box 13, Folder 5 Montage of Wright aircraft, 1910
Notes: Folder contents were not copied.

Box 13, Folder 6 Early naval aircraft and aviators, circa 1911
Notes: Folder contents were not copied.

Box 13, Folder 7 Miscellaneous aircraft and aviation pioneers, undated

Notes: Folder contents were not copied.

Box 13, Folder 8 Prominent scientists, undated
Notes: Folder contents were not copied.

Box 13, Folder 9 Unknown statue or trophy, undated
Notes: Folder contents were not copied.

Subseries 2.5: Scrapbook pages [20 x 24 inch flat box]

Arrangement: Scrapbook pages are arranged chronologically.

Scope and Contents: These pages include photographs, newspaper clippings, articles, programs, buttons and correspondence.

Box 13, Folder 10 Scrapbook page, 1885-1926
Notes: Folder contents were not copied.

Box 13, Folder 11 Scrapbook page, 1889-1904
Notes: Folder contents were not copied.

Box 13, Folder 12 Scrapbook page, 1906-1907
Notes: Folder contents were not copied.

Box 13, Folder 13 Scrapbook page, 1908-1909
Notes: Folder contents were not copied.

Box 13, Folder 14 Scrapbook, miscellaneous newspaper clippings, 1909
Notes: Folder contents were not copied.

Box 13, Folder 15 Scrapbook page, 1909-1917
Notes: Folder contents were not copied.

Box 13, Folder 16 Scrapbook page, 1910-1911
Notes: Folder contents were not copied.

Box 13, Folder 17 Scrapbook page, 1910-1919
Notes: Folder contents were not copied.

Box 13, Folder 18 Scrapbook page, 1913
Notes: Folder contents were not copied.

Subseries 2.6: Miscellaneous materials

Arrangement: Miscellaneous materials are arranged chronologically. Box 13 has not been scanned.

Box 13, Folder 19 Newspaper front page, The Balloon Graphic, no. 2, August 16, 1873
Notes: Folder contents were not copied.

Box 13, Folder 20 Caricature, aviation pioneers, 1907

	Notes: Folder contents were not copied.
Box 13, Folder 21	Stock certificate, Hammer stock holdings in the Aeronautic Society, August 5, 1908 Notes: Folder contents were not copied.
Box 13, Folder 22	Certificate, commemoration of the tenth anniversary of the Wright brothers first flight, Aeronautical Society, December 18, 1913 Notes: Folder contents were not copied.
Box 13, Folder 23	Poster, German Zeppelin passenger service, 1916 Notes: Folder contents were not copied.
Box 13, Folder 24	Newspaper front page, Chicago Sunday Tribune, vol. 86, no. 21, May 22, 1927 Notes: Folder contents were not copied.
Box 13, Folder 25	Newspaper front page, North Islander, vol. 37, no. 29, July 28, 1961 Notes: Folder contents were not copied.
Box 13, Folder 26	Drawings, control system of Wright Model C aircraft, undated Notes: Folder contents were not copied.
Box 13, Folder 27	Portrait of Alessandro Volta, inventor of the electric battery, undated Notes: Folder contents were not copied.
Box 99 (Shared), Folder 1	Miscellaneous material, undated

Subseries 2.7: Very Large Format Materials [39 x 50 x 2 inch large format drawer]

Very Large Format Mounted Copy Prints

The cardboard mounts of these very large format display prints are extremely brittle; most of the mounts are chipped and broken at the corners and edges—severely in some cases—with pieces broken off and missing. Due to their size and extreme fragility, these prints are not available to researchers.

Technical: The cardboard mounts of these very large format display prints are extremely brittle; most of the mounts are chipped and broken at the corners and edges—severely in some cases—with pieces broken off and missing. Due to their size and extreme fragility, these prints are not available to researchers.

Notes: This section consists of a group of 127 borderless matte silver gelatin print photographic enlargements, each mounted on a sheet of heavy gray 24 x 36 inch cardboard. These enlargements, created from photographs taken by William J. Hammer or from Hammer's personal collection, were displayed as part of the aeronautical exhibits at the Automobile and Aero Clubs of America Joint Show held in January 13-21, 1906, in the third-floor gymnasium of the 69th Regiment Armory, New York City.

Most of the prints carry a "Hammer number" on very small typed white square of paper affixed to the emulsion at the top left corner

of each photograph. Handwritten (cursive) annotations on the prints and mounts are believed to be in William J. Hammer's hand. Note that Hammer numbered prints 81-90 and 98-100 were not found in the collection at time of processing. Print numbers 91-97 are smaller-format prints located in [Box 6, Folder 26](#) ; these are photographs believed to have been taken in 1892 of Sir Hiram S. Maxim's Flying-Machine House and experimental equipment at Baldwyns Park, Bexley, Kent, England. Print number 7 (a view from behind of A. Lawrence Rotch and Samuel P. Langley watching an airship in flight) was also not found in the collection at time of processing, but copies of the image show up in other NASM Archives collections (see NAM A-450-A).

Digital photographs of the original prints, created by the Smithsonian National Air and Space Museum Archives in April 2013, are attached to this online finding aid, and have been presented in Hammer number order, with the unnumbered prints appearing at the end of the sequence.

Photographs 1-22

Notes: Between June 17 and October 9, the 1900 Olympic Games featured a number of competition events for gas balloons as part of the larger Exposition Universelle in Paris, France. These events took place at (or launched from) the Parc d'Aérostation at St. Cloud, part of the Exposition's Vincennes Annex just outside of Paris. This section includes aerial photographs taken by William J. Hammer during a balloon flight on August 19, and views of a demonstration flight made by Alberto Santos-Dumont in his Airship No. 4 for the International Aeronautical Congress on September 19, and a private demonstration flight made for Professor Samuel P. Langley (the Olympic committee's American balloon judge) on September 21.

Photographs 23-36

Notes: Views of French military balloons demonstrated at the balloon corps' headquarters at the Meudon Observatory during a visit by the International Aeronautical Congress, September 20, 1900. Members of the group include A. Lawrence Rotch, Henri Deutch de la Meurthe, Samuel P. Langley, Alberto Santos-Dumont, M. Mascart, E. Amié (Secretary of the Aéro Club de France), and Colonel Renard. This group of photographs also includes one view of the Ader Avion III (1897) on display in an indoor exhibit of the Exposition Universelle in Paris, France.

Photographs 37-80

Notes: Views of various gas balloon activities at the Parc d'Aérostation at St. Cloud during the Exposition Universelle in Paris, France; circa late August through late September 1900.

Photographs 101-105

Notes: Photographs relating to Hiram S. Maxim copied by Hammer from other sources.

Photographs 106-109

Notes: The airship Zeppelin LZ 1 in its floating hangar on Lake Constance (Bodensee) at Manzell, Germany, 1900.

Photographs 110-119

Notes: Additional photographs taken by William J. Hammer at St. Cloud of Alberto Santos-Dumont in his Airship No. 4 (circa late September 1900) and balloon competition activities (circa mid August to late September 1900).

Photographs 120-127

Notes: Views taken at the 1904 St. Louis Exposition and Aeronautical Competition of A. Roy Knabenshue piloting Thomas Baldwin's airship "California Arrow," Thomas Benbow's airship, the Prosper-Lambert balloon piloted by Hippolyte François, and a captive balloon and balloon shed.

Unnumbered Copy Photographs

Notes: This group includes photographs copied by William J. Hammer from other sources, and depicts glider designs by Ernest Archdeacon, Octave Chanute, Israel Ludlow, and the Wright Brothers; an aircraft design by Joseph Hofman; the Maxim 1894 Flying Machine; the Zeppelin LZ 2 airship; and a balloon flight made at West Point, New York.

Aeronautic Map of St. Louis, 1906

Notes: [NASM-9A16987] "Aeronautic Map of St. Louis: Published by the Business Men's League for the Aero Club of St. Louis." Political map of the United States of America (USA) overprinted with concentric rings at 100-mile distances centered on St. Louis, Missouri; published 1906, probably in conjunction with the International Balloon Races (Gordon Bennett Cup) held in St. Louis in 1907. A repurposed 1892 Rand McNally Railway Guide Map, the map includes the route of John Wise's July 1, 1859, trip from St. Louis to Henderson, New York (1,150 miles, the longest balloon flight known as of 1900), and directional lines indicating 20 other balloon flights from St. Louis between 1879 and 1906 (see text block at lower right). Area pictured includes southern Canada, most of Mexico, the Caribbean islands of Cuba, Hispaniola, and Puerto Rico, and inset maps of Alaska, Hawaii, and the Philippines. (32 x 44 inches)

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