

USAF History of Manned Balloons and Airships

A SELECTED BIBLIOGRAPHY



**ALBERT F. SIMPSON
HISTORICAL RESEARCH CENTER
Air University**

**OFFICE OF AIR FORCE HISTORY
Headquarters USAF**

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A SELECTED BIBLIOGRAPHY

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PREFACE

Balloons have had a particular fascination for people for hundreds of years. Even today, the sight of the Good-year blimp or a hot air balloon evokes feelings of romanticism and adventure. Such deep-seated emotions are indicative of the popularity of ballooning and the need for a bibliography on the subject.

Following is a listing of the major documents of the Albert F. Simpson Historical Research Center dealing with manned balloons and airships and a brief description of them. Barrage balloons, weather balloons, and other unmanned balloons are not covered. The references are listed chronologically, are unclassified, and available to any researcher--military or civilian. In addition, many of these documents have been microfilmed and can be purchased for personal use.

Further information concerning documents listed may be obtained by writing to: AFSHRC/HOA, Maxwell AFB AL 36112.

LLOYD H. CORNETT, JR.
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TABLE OF CONTENTS

	<u>Page</u>
Preface	ii
Documents	1
Bound Documents, Books, Textbooks, and Regulations	21
Periodicals, Newspapers, and Clippings	30
Photographs	38
Additional Documents Containing a Small Amount of Information on Manned Balloons (Titles Only)	40

DOCUMENTS

1. Index to Jones Chronology of Aviation 168.6501 (Index)
(3-1521-1)
Jones Collection Alphabetical Index to important aviation names, events, and dates. Covers both balloons and aircraft.
2. Jones Chronology 168.6501-1
(3-1521-4)
Chronology of balloons from earliest history to 1860. Begins with myth of Daedalus and Icarus and ends with Chinese Airship Line in 1860. 0-1860.
3. History of Airship Construction and Design 248.211-83J
(4722-53)
History. Excellent summary of dimensions and construction of U.S. and foreign balloons in use in 1918. 1781-1918, 37p.
4. Reconnaissance Report 248.262-14A
(4758-13A)
Copy of one of the earliest U.S. aerial reconnaissance reports. Report sent by balloonist John La Mountain. 10 Aug 1861.
5. The Balloon in the Civil War 248.262-14
(2-1069-1)
Report by Capt W. A. Glassford, U.S. Signal Corps. Good narrative with thesis that military observers make better balloon reconnaissance reports. 11p.
6. Jones Chronology 168.6501-2
(3-1521-5)
Notes on first U.S. Army Aeronauts, Professor T. S. C. Lowe and John La Mountain during the Civil War, and roster of the first U.S. Air Service. Deals with worldwide use of balloons, in peace and war. 1861-1887.
7. A History of U.S. Army Aerostation 248.211-83H
(4722-43A)
Narrative history of ballooning from the Civil War through World War I. 1871-1918, 10p.

8. On the Uses of Balloons in Military Operations, Paper X

Study on past, present, and future uses of balloons in warfare by Lt G. E. Grover. Copy of pp 71-84 from "Professional Papers on Subjects Connected with the Duties of the Corps of Royal Engineers." 23 Apr 1862.

168.6502-35A
(3-3527-116)
9. On Reconnoitring Balloons, Paper XI

Observations on Civil War Ballooning by Lt G. E. Grover. Copy of pp 87-93 from "Professional Papers on Subjects Connected with the Duties of the Corps of Royal Engineers." 14 Jun 1862.

168.6502-35B
(3-3527-117)
10. On Balloon Reconnaissances as Practiced by the American Army, Paper XII

Well-written personal observations of the Civil War by Capt F. Beaumont, RE. Copy of pp 94-103 from "Professional Papers on Subjects Connected with the Duties of the Corps of Royal Engineers." 14 Nov 1862.

168.6502-35C
(3-3527-118)
11. Jones Chronology

Covers aviation from 1890-1899. Deals with Signal Corps reorganization in 1890 which included aeronautics. Airships begin to rise to prominence. 1890-1899.

168.6501-3
(3-1521-6)
12. USAF Oral History Program Interview #766

Transcript of Interview with Maj Gen Benjamin D. Foulois in Dec 1965. He makes a few references to his balloon and airship experiences. 98/00/00-35/00/00.

K239.0512-766
(1000328)
13. Count Von Zeppelin's Dirigible Air Ship

Extract from the Smithsonian Report for 1899 giving a description of Zeppelin's Dirigible while under construction on the Lake of Constance. One photo. One drawing. pp 563-565.

168.6503-38
(3-3527-123)
14. Jones Chronology

Although the majority of the book is about the Wright Brothers, there are a few references to balloons; Santos-Dumont airship, Aero Club of America (FAI) certificates, etc. 1900-1906.

168.6501-4
(3-1521-7)

15. Jones Chronology 168.6501-5
(3-1521-8)
Contains information on Signal Corps Balloons #10, 11, and 12; attempt by Walter Wellman to reach the North Pole in airship "America;" listing of balloon ascents, etc. 1907.
16. The Tactical and Strategical Value of Dirigible Balloons and Dynamical Flying Machines 168.68-14
(1003015)
Paper by 1st Lt Benjamin D. Foulois stressing the advantages of balloons and aircraft for reconnaissance and offensive operations. 9 July 1908, 10p.
17. Jones Chronology 168.6501-6
(3-1521-9)
Contains information on bids for Army airship, aviation prizes, and ascents. Description of Army's Dirigible #1. Tentative drill regulations. Scattered additional material. 1908.
18. Early Civilian Flyers 168.655-4
(3-3527-179)
Eight envelopes inside accordian folder. Folder #1: Steimetz's balloon defense against Zeppelins; #3: clipping and letters about balloons; #7: actual photos and clippings of 1908 balloon race.
19. Notes, Extracts, and General Data Concerning the Growth, Development, and Status of the U.S. Army Air Corps 167.91-1
(6319)
Various documents concerning authorizations and listing of balloon units. 1908-1937.
20. Jones Chronology 168.6501-7
(3-1521-10)
Description of crash of Signal Corps Balloon #12; ascents, balloon races, additional information. 1909.
21. Jones Chronology 168.6501-8
(3-1521-11)
Very little on balloons: Omaha Meet-1910, Zodiac IV airship, hypothetical sketch of balloon operations against Corregidor, little additional material. 1910.

22. History of Langley Field, Virginia 285.49-1
(4765-27)
Brief mention of the arrival of the 28th and 29th Balloon (Squadrons?) in the history compiled by Lt Col J. W. S. Wuest. June 1930. 1916-31 Dec 1929.
23. History of Langley Field, Inception to 1 Mar 1935 285.49-1
(1897-5)
Pages 60-63 concentrate on Langley's balloon and airship history but other references are scattered throughout the narrative. Two photos of airships. Vol 1.
24. Appendix to History of Langley Field, Virginia, Inception to 1 Mar 1935 285.49-1
(1897-6)
Most copies of deeds and contracts. Copies of magazine articles in the back dealing with wind tunnel testing of airships. Vol 2.
25. History of Langley Field, 1916-1936 285.49-1A
(2-4018-1B)
History written by L. E. Dixon and L. Gordon, secretaries to commanding officers at Langley Field. Balloon references on pp 13-18, 25-26. 1916-1936.
26. Documentary Supplement to History of Langley Field, Virginia, 1916-1945 285.49-1C
(4-2772-3)
Page 4 covers accident of TA-5 (sic) in Post Diary, Jan 1926-Sep 1931. Other shorter references. 1916-1945. Vol 1.
27. Jones Chronology 168.6501-24
(3-1521-27)
Listing of officers on duty with aviation section when war declared 6 Apr 1917. Description of Navy DN-1 airship. Cost of balloon companies. Apr 1917.
28. Jones Chronology 168.6501-25
(3-1521-28)
St. Louis Balloon School organized. Chronology of Air Service A.E.F., 18 Jul 1914-28 Apr 1919. May 1917.

29. Jones Chronology 168.6501-27
(3-1521-30)
Pershing's proposed organization of forces;
analysis of \$640 million appropriated for
aeronautics, ranking of Junior Military
Aeronaut/Aviator (JMA). Jul 1917.
30. Jones Chronology 168.6501-28
(3-1521-31)
Description of kite balloon, types of balloons
produced, numbers left at end of war. 4p at
end of volume.
31. Jones Chronology 168.6501-29
(3-1521-32)
Listing of arrival of balloon companies in the
Zone of Advance, manpower of 15 balloon companies,
conference on balloon fabric, other miscellaneous
entries on balloons. Sep 1917.
32. Jones Chronology 168.6501-30
(3-1521-33)
Signal Corps Organization Chart, 1st Balloon
Parachute Jump at Ft. Omaha Balloon School,
recommendation for a rigid airship, other
balloon information. Oct-Nov 1917.
33. Kite Balloons: Procurement, Maintenance, and
Training 167.601-12
(3-1272-12)
Collection of letters dealing with procurement
of kite balloons, their maintenance, and crew
training. 1917.
34. Collection of Documents 167.601-4
(3-1272-4)
Two letters and one report on use and possible
use of balloons in World War I. 1917-1918.
35. Balloon and Airship School K110.5037-2
(3-4424-2A)
Balloon history of Scott Field, Illinois.
1917-1937, 2p.
36. Jones Chronology 168.6501-33
(3-1521-36)
Officer requirements for balloon organizations,
honors to American units in World War I. Feb-
Mar 1918.

37. Jones Chronology 168.6501-34
(3-1521-37)

Biography of M. C. Fleischmann (World War I balloonist); establishment of Arcadia, California, balloon school; radio in balloon service; more scattered references. Apr-Jun 1918.

38. Jones Chronology 168.6501-35
(3-1521-38)

Leaflet propaganda drops by balloon; balloon observer jumps while under fire from aircraft; French aid to balloon service; additional balloon references. Jul-Sep 1918.

39. Air Corps Operations 168.6503-74
(3-3826-20)

Battle plans for 1st Army Corps A.E.F. balloons in connection with field orders number 46, 49, 57, and 85. Aug-Oct 1918.

40. Jones Chronology 168.6501-36
(3-1521-39)

Oxygen mask experimented with for balloon observers, cost of World War I aeronautics, runaway captive balloon incident, other references. Oct-Dec 1918.

41. Report of the Balloon Section, Vol 1 248.211-83D
(4722-55)

Narrative history, arrival and ascension reports, graphs, personal information on each balloon company from inception to 31 Dec 1918. Submitted by Col Charles DeForest Chandler; Vol 1.

42. Report of the Balloon Section, Vol 2 248.211-83D
(4722-51)

Narrative history, various studies on aircraft observation, topography, physics, organization, operations, and balloon equipment. 16pp of photographs, 1918. Vol 2.

43. Employment of Balloons in the St. Mihiel Offensive 248.211-115C
(4721-133)

Airdrome statistics issued by the A.E.F. in 1918 giving disposition of the balloon companies in the St. Mihiel offensive. 1918, 6p. (See also 248.211-83D, Vol 3 - dupe)

44. Lessons Learned 248.211-83Q
(4765-81)
Report by Maj John H. Jouett on efficiency of the balloon service and the need for greater cooperation with the air arm. 1918, 3p.
45. Notes on Airships for Commercial Purposes 248.211-83T
(4750-68)
Study of the advantages and disadvantages of airships and aeroplanes for commercial use. 1918, 19p.
46. Summary of Lighter-Than-Air Reserve Officers 167.4115-5A
(4-1443-53)
Listing of names and addresses of officers with the rating of maneuvering officer, balloon observer and aircraft observer, balloon observer, balloon observer and airship pilot, airship pilot, and junior military aeronaut (JMAER). c. 1918, 16p.
47. Airship Reports 168.6005-6
(5-3180-96)
Five reports on airships and Zeppelins. 1918-1922.
48. Jones Chronology 168.6501-37
(3-1521-40)
Gen Menoher's memo on armistice strength, requirements for "dirigible pilot" and "expert dirigible pilot," balloon observation for forest fires, and additional data. Jan-Jun 1919.
49. Miscellaneous Reports and Policies 145.91-310
(No access #)
Programs, reports, and bulletins on airship policy. 1919-1937. Vol 2A.
50. Jones Chronology 168.6501-39
(3-1521-42)
Use of airship for long-distance scouting, rigid airship policy, nighttime free balloon crash, balloons at Leavenworth schools. Jun-May 1920.

51. Post-World War I Ballooning 145.91-310
(No access #)
Miscellaneous letters and reports dealing with post-World War I ballooning - organization, equipment expenditures, etc. Feb 1920-Feb 1941. Vol 2.
52. Report on the Goodyear "Pony Blimp" 248.211-83E
(4722-20)
Letter from Lt Col H. M. Hickam to the Director of Air Service about the Goodyear "Pony Blimp." Gives specifications. 27 May 1920.
53. Jones Chronology 168.6501-40
(3-1521-43)
Requirements for airship pilot and balloon observer, flight of Army Zodiac airship, dimensions of Army Airship D-2, additional airship data. Jun-Dec 1920.
54. Brief History of the Air Service--A.E.F. 168.65011-8
(3-3527-57)
Collection of documents. "The Air Service Overseas," 25p, 1 Jul 1920. "The Balloon in the Civil War" by Capt W. A. Glassford, 11p, undated. Lecture by Col S. B. Lober on Development of Military Aviation, 23p, 19 Aug 1943. Typed pages, handwritten and shorthand notes on World War I aviation, author and date unknown, 1 Jul 1920-19 Aug 1943.
55. Miscellaneous Notes 168.6005-7
(5-3180-97)
A collection of notes, letters, sketches, and formulas about ballooning. 1920-1923.
56. Air Service Financial Program of Balloon and Airship Division for Balance of FY 1921 167.40163-1
(4-1432-3)
Summary of overall costs of the balloon service showing funds approved, obligated, and balance remaining. 25 Mar 1921.
57. Balloon Service Expenditures 167.40163-1
(4-1432-2)
Summary of balloon service expenditures showing amounts approved, obligated, and balance. 30 Mar 1921.

58. "Roma" Blueprints and Diagram
 Seven blueprints and one diagram showing complete design layout as well as details of various portions of the airship "Roma." Drawings done by the Naval Aircraft Factory, Philadelphia. Eight individual envelopes, with separate accession numbers. 12 Oct 1921.
 248.211-83G
 (4719-91 & 92, 94 & 95, 97 thru 99)
59. Dirigible Hangar Blueprint
 Blueprint showing alteration for door frames of the Dirigible Hangar, Langley Field, Virginia. 3 Nov 1921.
 248.211-83G
 (No access #)
60. Air Service Financial Program of Balloons and Airship Division for the Last Three Quarters of Fiscal Year 1921
 Estimated dollar costs for maintenance, repair, and replacement of balloons and airships for the last three quarters of Fiscal Year 1921. 1 Dec 1920.
 167.40112
 (4-1432-46)
61. Balloon Reports
 Newspaper clipping, Report on Goodyear Dirigible "The Puritan," reports by/on Capt W. E. Kepner and Lt W. O. Eareckson's flight in National Balloon Race, 30 May 1928. 1921-1928.
 168.6005-8
 (5-3180-98)
62. Diagram of "Roma" Crash
 Diagram of course of airship "Roma" while in a nosedive and location of the crash at Army Supply Base, Norfolk, Virginia, 21 Feb 1922.
 248.211-83G
 (4719-96)
63. Proceedings of a Board of Officers in Regard to the Accident to Airship "Roma," Feb 21, 1922, Langley Field, Virginia, Part 1 of 4 Parts
 Interrogation of passengers, crews, and other witnesses of the crash of the "Roma." 21 Feb 1922, Pt 1.
 248.211-83G
 (4719-106)

64. Proceedings of a Board of Officers in Regard to the Death of Maj John G. Thornell, Air Service, as a Result of the Accident to the Airship "Roma," Feb 21, 1922 248.211-83G
(4722-21)

Investigation into the death of Maj Thornell and 33 others in crash of "Roma." 21 Feb 1922, Pt 2.
65. Exhibits in Proceedings of Board of Officers in Regard to the Accident to the Airship "Roma" on Feb 21, 1922 248.211-83G
(4722-71)

Exhibits 1 and 2, also A to I inclusive. Contains 10 photos of "Roma." 21 Feb 1922, Pt 3.
66. "Roma" Disaster 248.211-83G
(4719-104)

Miscellaneous correspondence, pictures, clippings, etc., regarding crash of "Roma" at Langley Field, Virginia. 21 Feb 1922, Pt 4.
67. Resolution 168.6566-8
(4-2023-6)

Framed resolution in memoriam of the crash of the "Roma" by the city of Hampton, Virginia. 23 Feb 1922.
68. Statement 248.211-83G
(4719-102A)

Statement of Lt R. Emerson, U.S.M. Reserve Flying Corps, witness before Army Board of Investigation into causes of disaster of U.S.A. airship "Roma." 14 Mar 1922.
69. The Use of the Water Model in Airship Design, 22 Apr 1922 248.211-83
(4750-69)

Report by F. D. Swan dealing with the use of water in airship design. 22 Apr 1922, 6p.
70. Report on "The Captive or 'Kite' Balloon" 216.2101-33
(No access #)

War Department Report by Ralph M. Tripcony on advantages, disadvantages, force factors on the various types of captive balloons. 22 Apr 1922, 16p.

71. The Evolution of Free and Power Balloons 216.2101-43
(4733-18)
Air Service Engineering School report by
S. R. Warren. Narrative traces history of
free balloons and airships. Jul 1922, 18p.
72. Balloon and Airship Ground Handling Equipment,
Hangars, Etc. 216.2101-51
(No access #)
War Department Report by V. H. Dill in narrative
and blueprint covering wind screens, landing
gear, mooring gear, and hangars. Jul 1922,
60p.
73. Report on Aerostatic Problems Involved in the
Design and Navigation of Lighter-Than-Air Craft
Without Power--Practical Effects Due to Changes
in Barometric Pressure, Temperature, Humidity,
Superheat, Purity, Etc. 216.2101-38
(No access #)
War Department Report by Matt Q. Corbett on
principle of buoyancy as applied to lighter-
than-air craft. Aug 1922, 21p.
74. Air Service Estimates for FY 1922 167.40112
(4-1432-44)
Balloon and Airship Division dollar costs
which provide basis for FY 1922. Air Service
estimate. 1922.
75. Balloon Costs by Field 167.40112-1
(4-1432-43)
Costs of balloons and equipment at various
fields - Scott, Langley, Ross, and others.
1922.
76. Ross Field Expenditures 167.40112-1
(4-1432-42)
First and second quarter FY 1922 and estimate
of FY 1923 expenditures for Balloon Observers
School, Ross Field, California. 1922-1923.
77. Jones Chronology 168.6501-42
(3-1521-45)
Scattered references to balloons: first Cheney
Award, "Caterpillar Club," other smaller entries.
1922-1923.

78. French Balloon Intelligence Report 248.211-83N
(4722-63)
Excerpts from an article by Gantreau on French
Dirigibles. Translation by Office of Naval
Intelligence. 13 Sep 1923, 1½p.
79. General Specifications 167.46-1
(4-1432-27)
General specifications and blueprints by the
Goodyear Tire and Rubber Company for a Type
C. B. 275,000-cubic-foot nonrigid airship.
29 Mar 1923.
80. Airship Aerodynamics 167.441-1
(4-1220-1A)
Tables, theories, and formulas used in the
study of airship aerodynamics. War Depart-
ment Training Regulation #440-210. 1923,
6lp.
81. Aerostatics 167.441-1A
(4-1220-2)
A course of instruction for balloon and
airship students covering theories and
formulas for figuring gas density, lift,
drag, etc. CA 1923.
82. Students for Rigid Airship Training at Lakehurst,
New Jersey 167.4713-1
(4-1443-54)
Letters, memos, orders, etc., concerning train-
ing of pilots and crew for rigid airships.
1923-1924.
83. Air Service Estimates for FY 1923--Seacoast
Defense, U.S. and Possessions 167.40112
(4-1432-47)
Duplicates dollar costs for balloon expenses
given in item 75. 1923.
84. U.S. Naval Air Station, 1923-1925 168.6005-9
(5-3180-102)
Data from Lakehurst, New Jersey, such as:
blueprints, rosters, reports, group photo.
1923-1925.

85. U.S. Army Air Service Specification for Envelope for 200,000 Cubic Feet. Training Airship, Class T.C. 248.211-83L
(4724-84C)
- Design specification for balloon envelope.
19 Mar 1924, 10p.
86. U.S. Army Air Service Specification. Airship, Training, 130,000 Cubic Feet, Type T.A. 248.211-83L
(4724-8)
- Requirements for 130,000 cubic feet airship.
26 Mar 1924, 14p.
87. Jones Chronology 168.6501-43
(3-1521-46)
- Airman recommended for Cheney Award, Navy considers eliminating airships, ZR-3 "Los Angeles" obtained from Germany, additional small entries. 1924.
88. U.S. Army Air Service Specification for an Airship, Training, 200,000 Cubic Feet, Type T.C. 248.211-83L
(4724-83)
- Design requirements. 15 Aug 1924, 13p.
89. Charts. Comparative Estimate of Funds Required for Purchase of Lighter-Than-Air Craft for 1924 167.40112
(4-1432-43)
- Original and copies of charts showing type of balloon, costs, manning, funding, etc. 1924.
90. Funds for Construction of Quarters, Scott Field, Illinois, Apr-May 1923 167.40112
(4-1432-45)
- Letters detailing need for officer quarters, proposed solution, and cost. 1924.
91. Airship Blueprint Reproductions 167.408-4
(3-8678)
- Reproductions of the blueprints of six airships. General characteristics also given. 1925.
92. Jones Chronology 168.6501-44
(3-1521-47)
- Crash of the "Shenandoah" and discussion on discontinuing airship production, Detroit News Balloon Trophy, National Balloon Race, other balloon data. 1925.

93. Jones Chronology 168.6501-45
(3-1521-48)
American and world balloon altitude records set at Belleville, Illinois, Gordon Bennett International Balloon Race, National Balloon Race, additional entries. 1926-1927.
94. Proceedings of a Board of Officers Convened to Consider Lighter-Than-Air Activities, 21 May 1928 168.6005-11
(5-3180-99)
Board convened to determine whether to retain lighter-than-air craft in the Army, and if so, to submit a suitable program. 21 May 1928.
95. Riding a Storm in a National Balloon Race 168.6005-13
(5-3180-103)
Handwritten notes by Capt William E. Kepner for story published in True Story magazine in August 1928. 28 May 1928.
96. National Balloon Race Program 168.6005-12
(5-3180-101)
Program of 1928 National Balloon Race held at Bettis Field, Pittsburgh, Pennsylvania, on 30 May 1928. Has photographs and brief biographies of entrants. 30 May 1928.
97. A Study on the Use of Airships for Oceanic and Transoceanic Bombardment 248.211-83S
(4673-119)
Study by Capt Edmund W. Hill on use of the airship as a long-range weapon. 1928, 20p.
98. Technique of Balloon and Airship Operation 248.101-14B
(4778-65)
Portions of Air Corps Tactical School texts: Chap I-IV of 1 Jan 1928, Chap IV of 1928-1929, Chap V of 1927-1928 text. Covers history, technology, etc., of balloons and airships.
99. The Story of a Great Adventure 168.7045-13
(3-8417-16)
Stories by Karl H. von Wiegand and Lady Drummond Hay, the only American newspaper correspondents allowed aboard the "Graf Zeppelin" on its first transoceanic flight. Photographs. 1928, 32p.

BOUND DOCUMENTS, BOOKS, TEXTBOOKS, AND REGULATIONS

138. A Narrative of the Two Aerial Voyages of Doctor Jeffries With Mons. Blanchard 168.6502-40
(3-3527-113)

Reprint of the 88-page story by Doctor Jeffries in Jan 1786. Early portion of book in old English script, second part in current English. Some French. Publication date unknown.
139. Aeronautica 168.6503-46
(3-3527-135)

Description of a balloon flight from England to Germany. Monck Mason, Esq., London, F. C. Westley, 1838, 355p.
140. History and Practice of Aeronautics 168.6502-36
(3-3527-114)

History of flying, including the author's 15-year experience. Also gives instruction in making balloons and parachutes. John Wise. Philadelphia, Joseph A. Speel, 1850, 310p.
141. The United States Army Air Arm, Apr 1861-Apr 1917 101-98
(4-2879-1A)

Study by USAF Historical Div, Research Studies Institute, Air University. Pages 1-19 cover balloons from Civil War to World War I. Pages 162-164 deal with balloons and airships 1916-1917. 1861-1917.
142. History U.S. Army Air Service 1862-1920 168.65011-5
(3-3527-58)

Maj H. A. Dargue? Approximately 60-page history of aviation. Only 10-11 pages in Chapter III are on balloons. 1862-1920.
143. History and Development of Army Aeronautics 167.401-11
(4284-14)

Collection of documents on development of Army aeronautics.
 1. Two-page History of U.S. Army Air Service 1862-1920---Air Service Info Group.
 2. Ten-page History of U.S. Army Aerostation by Lt Glassford.

143. History and Development of Army Aeronautics (contd)
3. Two copies of 17-page History and Development of the Air Service by Maj F. P. Lahm.
 4. Chronology of boards, etc., fixing numbers of aircraft in Army and Navy aviation.
 5. 3 April 1928 Hearings Before the Committee on Military Affairs.
 6. Digest and Index of the Present Laws of Air Service 1862-1928.
144. Navigating the Air 168.6502-39
(3-3527-109)
- Chapters by famous authors--Orville Wright, Prof. T.S.C. Lowe, Lt Frank P. Lahm, others. Excellent narrative and photos on balloons and aircraft. Aero Club of America. New York, Doubleday, Page, and Company, 1907, 259p.
145. Aero Club of America 1910 168.6503-19
(3-3527-2A)
- Aero Club of America reports for 1907-1911. Gives conditions and costs of membership, roster of members, significant aeronautical events, rules for air races and world records. Aero Club of America. New York, Montross, Clarke, and Emmons, 1911, 78p.
146. The Air Service, Part II, 31 Oct 1918 168.65011-5
(4-2023-60)
- History dealing with preparation for and entry into World War I and conduct of the war. Pages 5-6, 19, 65-69, and 74 discuss balloons. 1907-1918, 95p.
147. Aero Club of America 1912 168.6503-19
(3-3527-23)
- Gives record of incorporations, list of members, rules and regulations for obtaining aeronautical pilot's licenses, description of rules, and photographs of the various trophies. Aero Club of America. New York, Douglas Taylor and Co., 1913, 88p.
148. Aero Club of America 1913 168.6503-19
(3-3527-22)
- Similar to previous book but lists holders of aviation certificates of the Aero Club. Aero Club of America. New York, Blanchard Press, 1914, 120p.

149. Aero Club of America 1915 168.6503-19
(3-3527-21)
Updates 1912 and 1913 books. Begins to be preoccupied with aircraft. Aero Club of America. New York, Edward Schmidt Printing Co., Inc., 1916, 97p.
150. Aero Club of America 1916 168.6503-19
(3-3527-20)
Updates previous book. Aero Club of America. New York, Vreeland Advertising Press, 1917, 109p.
151. Aero Club of America 1917 168.6503-19
(3-3527-19)
Updates previous books. Aero Club of America. (No printing information), 148p.
152. Annual Report of the Chief of Air Service 167.4011
Annual reports giving status of military aviation in the U.S. for the years 1918-1925, 1931, 1933, and 1934. Eleven documents. FY 1918-FY 1934.
153. America's Munitions 1917-1918 168.6503-4
(3-1559-103)
Excellent description of America's war machinery in World War I. Balloons are covered in pp 331-344. Report of Benedict Crowell, Asst. Sec. of War, Dir. of Munitions. Washington, Government Printing Office, 1919, 592p.
154. The Balloon Section of the American Expeditionary Forces 167.401-22
(3-1836-1)
Contains: autobiographies of commanding officers, dates of departure from and arrival in U.S. of all balloon companies, company histories with photo and roster, story of capture and treatment of two balloonists, excellent photos of balloon war activity. 1st Lt S. W. Ovitt, ed. Conn., Tuttle, Morehouse, and Taylor Co., 1919, 286p.

155. Aero Club of America 1919 168.6503-19
(3-3527-159)
Updates earlier books. Aero Club of America.
(No printing information), 1919, 191p.
156. Air Service Estimates for the Last Three 167.40112
Quarters of FY 1921 and All of FY 1922 (4-1432-7)
Air Service financial program of Balloon
and Airship Division expenditures for the
last three quarters of FY 1921. 11 Nov 1920.
Estimated financial requirements for the Air
Service Balloon and Airship Division for FY
1922. 2 Dec 1920.
157. H.R. 5010 Appropriations Act for FY 1922 167.40112
(4-1432-6)
Appropriations Act covering expenditures for
the Air Service. Attached are the 1 Jun 1921
Air Service estimates for FY 1922. Detailed
descriptions of the cost of purchase, repair,
and maintenance of airships. 30 Jun 1921.
158. Air Service Estimates for FY 1923 167.40112
(4-1432-5)
Duplication of Appropriations Act H.R. 5010
for FY 1922 in front of document. Air Service
estimates for FY 1923 on purchase, repair, and
maintenance of balloons, airships, and aircraft.
29 Jul 1921.
159. Construction, Maintenance, Care and Operation 248.211-83L
of Balloons #440-215
(4722-74)
Definitions, instructions, photographs, and
drawings covering balloon operations. War
Dept. Training Regulation #440-215, 1922,
33p.
160. Erection and Maintenance of Airships 248.211-83L
#440-220
(4733-21A)
Instructions on inflating, inspecting, and
deflating, and repairing an airship. War
Dept. Training Regulation #440-220, 1922,
10p.

161. Hangars, Landing Fields, and Mooring Devices for Airships and Balloons 167.44-4
(4730-20A)
Description of hangars, landing fields and related equipment, mooring devices, etc., for airships and balloons. War Dept. Training Regulation #440-265, 1922, 8p.
162. Maintenance and Care of Balloon Accessories 248.211-83L
#440-260
(4722-75A)
Description of treatment of balloon from bag to nuts and bolts. War Dept. Training Regulation #440-260, 1922, 3p.
163. The Airship Pilot 248.211-83L
#440-275
(4724-80)
Requirements for pilot, instructions for normal and emergency procedures. War Dept. Training Regulation #440-275, 1922, 11p.
164. Maneuvering of Airships 248.211-83L
#440-335
(4733-20A)
Instructions for maneuvering an airship for landing. War Dept. Training Regulation #440-335, 1922, 10p.
165. A Guide to the Course in Aerostatics as Conducted at the Air Corps Balloon and Airship School, Scott Field, Illinois 168.6005-32
(5-3180-121)
Course of study by 1st Lt Randolph P. Williams dealing with physical principles involved in operating an airship.
166. A Short History of the United States Army Air Service 1861-1917 167.401-11A
(4729-8)
Brief history written by Maj T. D. Milling. Pages 1-5 cover development of balloons worldwide. U.S. balloon efforts also mentioned on pages 14 and 50. 31 Dec 1923, 50p.
167. Balloon Observation and Primary Airship Training 167.47241-1
(4-1220-4)
Lectures published for home study course for Reserve Officers, 19th Corps, Organized Reserves, 9th Corps Area. Narrative with six photos. 1923.

168. Background Data for FY 1923 Budget Estimates 167.40112
(4-1432-41)
Miscellaneous materials serving as background data for FY 1923 Air Service budget estimates. 1923.
169. Training Schedule Outline 167.47241-1
(4-1443-46)
Outline of training schedule prepared at Ross Field, California, May 1923. Home reading course for Lighter-Than-Air Reserve Officers, 9th Corps Area. 1923.
170. Balloon Observation and Primary Airship Training 167.47241-1
(No access #)
Home study course for Reserve Officers, 19th Corps, Organized Reserves, 9th Corps Area, Ross Field, California. Lecture on pigeons, telephony, artillery. One photo. Nov 1923-Jan 1924.
171. Balloon Observation and Primary Airship Training 167.47241-1
(4-1439-41)
Home study course for Reserve Officers, 19th Corps, Organized Reserves, 9th Corps Area, Ross Field, California. Two photos. Apr 1924.
172. Air Service Tactical School Course 1924-1925 168.69-7
(3-3846-6)
Part I: Airship Engineering.
Part II: Technique of Balloon and Airship Operation.
Textbook for Air Service Tactical School on balloons and airships. Part I covers description, theories, and formulas for construction. Part II covers history, possible uses, and techniques of balloon and airship operation. 1924-1925.
173. The Rigid Airship 168.6005-23
(5-3180-112)
Detailed descriptions of the development, forces affecting performance, and formulas for constructing a rigid airship. E. H. Lewitt. London, Sir Issac Pitman & Sons, 1925, 283p.

174. A History of U.S. Naval Aviation 180.415-18
(4750-49)
Brief history of U.S. naval aviation through 1930. Chapter 12 covers the development of lighter-than-air craft. The final page compares the Navy dirigibles "U.S.S. Shenandoah" and the "Los Angeles." Capt W. H. Sity. Washington, Government Printing Office, 1930, 48p.
175. Balloons and Airships, Jan 1932 248.101-14
(4775-76A)
Air Corps Tactical School textbook, Maxwell Field, Alabama. Chapter 1 covers history, handling, field organization, and tactical employment of balloons. Chapter 2 covers the same subjects for airships. Jan 1932, 74p.
176. Balloons and Airships - Problems 1932-1933 248.101-14A
(4775-79)
Air Corps Tactical School (ACTS) Instructors Book, Maxwell Field, Alabama. Questions and answers used in ACTS. Diagrams showing position of balloon landing party. 1932-1933.
177. Balloons and Airships - Problems 1933-1934 248.101-14A
(4775-78)
Instructors book. Questions and answers used in the Air Corps Tactical School. 1933-1934.
178. National Geographic Society/U.S. Army Air Corps Stratosphere Flight of 1934 in the Balloon "Explorer" 168.6005-30
(5-3180-119)
Report on flight which almost ended in disaster for Maj W. E. Kepner, Capt A. W. Stevens, and Capt O. A. Anderson. Personal experiences, scientific and technical reports included. 1934, 122p.
179. Balloon and Airship - Problems 248.101-14A
(4775-77)
Instructors book. Questions and answers used in the Air Corps Tactical School. 1934-1935.

180. Balloons and Airships 1 Nov 1935 248.101-14
(4775-75)
Air Corps Tactical School textbook. Sections I-IV cover history, organization and tactical employment of balloons. Sections V and VI cover the same subjects for airships. 1 Nov 1935, 52p.
181. The National Geographic Society/U.S. Army Air Corps Stratosphere Flight of 1935 in the Balloon "Explorer II" 168.6005-31
(5-3180-120)
Description of the world record flight of Maj A. W. Stevens and Capt Orvil A. Anderson on 11 Nov 1935 when they reached a height of 72,395 feet above sea level. Scientific data. Excellent photographs. 1935, 278p.
182. What About the Airship? 168.6005-25
(5-3180-114)
Study on airships: their casualties, place in commerce, use in war, and possibilities. Several photos. Commander C. E. Rosendahl. New York, Charles Scribner's Sons, 1938, 437p.
183. The Measure of America's World War Aeronautical Effort 168.6503-24
(3-3527-52)
Summary of aeronautical support in World War I furnished by the U.S. Only pages 56, 60-62 mention balloons. Col Edgar S. Gorrell. Vermont, The Lane Press, 26 Nov 1940, 78p.
184. The First Air Voyage in America 168.6502-33
(3-3527-111A)
Sixty pages by Carroll Frey on the above title. Twenty-seven-page facsimile reprinting of the "Journal of My Forty-Fifth Ascension and the First in America" by Jean Pierre Blanchard. This flight took place 9 Jan 1793 from Philadelphia to Woodbury. Carroll Frey. Pennsylvania, The Penn Mutual Life Insurance Company, 1943, 97p.
185. Why? Why Has America No Rigid Airships? 168.6005-27
(5-3180-116)
A study of the characteristics of large ocean-crossing rigid airships. Theory that a mix of dirigibles, airplanes, and steamships would provide this country with the best possible transportation system. P. W. Litchfield and Hugh Allen. Cleveland, Corday and Gross Co., Dec 1945, 143p.

186. Command of Observation Aviation: A Study in Control of Tactical Air Power 101-24
(7-3875-23)

Study by Dr. Robert F. Futrell for the USAF Historical Division, Air University. Balloons covered in pages 1-3, 7. Sep 1956, 44p.
187. History of the United States Air Force, 1907-1960 K220.101-1
(5-2826-1A)

HQ ATC update of 1957 study done by USAF Historical Division, Research Studies Institute, Air University. Update includes events through 1960. Pages 1-1 through 2-10 give some mention of the role of balloons. ATC Pamphlet 190-1, 1 Jun 1961, 282p.
188. American Air Service Observation in World War I K112.1-1
(5-2687-1)

Ph.D. dissertation by Sam H. Frank for the University of Florida. Primarily on reconnaissance aircraft but the early portion does cover balloons. Aug 1961.
189. The World War I Diary of Frank P. Lahm, Air Service, A.E.F. 101-141
(No access #)

Wartime diary of Frank P. Lahm, early balloonist and aviator, who at one time was in charge of AEF balloon activities in WWI. Document also contains biographical sketches of persons mentioned in the diary. Edited by Albert F. Simpson, Aerospace Studies Institute, Maxwell AFB, Alabama, Dec 1970, 271p.
190. Pioneer Into Space: A Biography of Major General Orvil Arson Anderson K112.1-15
(8-1465)

Doctoral dissertation on the life of Orvil Anderson, one of the Army's foremost airship pilots and balloonists. John Henry Scrivner, Jr. University of Oklahoma, 1971, 380p.
191. Two Hundred Million Years of Flying K146.0411-1
(3-7296)

Brief history of flight. Pages 13-29 cover balloons and airships. Donald Wilson. Michigan, University Microfilms, 1972, 56p.

PERIODICALS, NEWSPAPERS, AND CLIPPINGS

192. The Latest Development in Aerial Navigation 168.6502-41
(3-3527-119)
Pamphlet advertising "The Lowe Planet Airship" and Prof. T.S.C. Lowe's aeronautic experiences before, during, and after the Civil War. 1860-1910, 52p.
193. The Balloon Buster of Arizona 168.7037-15
(3-7563-16)
Accedotal story of Frank Luke. Norman S. Hall. Pages 7-52 from Liberty magazine, 14 Jan 1928.
194. The Century Illustrated Monthly Magazine 168.6503-57
(3-3527-140)
Magazine published in Sep 1886 has two articles on ballooning: "Amateur Ballooning," pp 670-679 by Alfred E. Moore, and "Balloon Experiences of a Timid Photographer," pp 679-694 by John G. Doughty. Sep 1886, 162p.
195. Chronology of Aviation 168.65011
(3-1559-5)
Pages reproduced from the World's Almanac for 1911. Pages 21-23 give balloon records and descriptions of accidents. Hudson Maxim and William J. Hammer. New York. 23p.
196. Clippings 167.401-5
(4284-9)
Clippings selected by Charles DeForest Chandler and Frank P. Lahm with regard to the development of civil and military aviation. Extracts from various histories and newspapers, 1903-1939.
197. My Air-Ship Experiences 168.6502-37
(3-3527-120)
Publication sold for 25¢ depicting the life and flights of Horace B. Wild, "The Daring Chicago Aeronaut of White City's Famous 'Eagle' Airship." Horace B. Wild. 1906, 8p.
198. Clippings 167.601-23
(7-4921-1)
Miscellaneous newspaper clippings mostly dealing with summaries or totals of balloon events in World War I. Sources of clippings not always given.

199. Scrapbook of Lt Frank Goodale 168.6566-6
(3-3527-158)
Collection of newspaper articles and
photographs about Frank Goodale, early
balloonist and parachutist. 1909-1926.
200. A Fall From the Sky - How Two Americans in
an Exploded Balloon Dropped a Third of a
Mile and Lived to Tell the Tale 168.6502-34
(3-3527-115)
Description of accident befalling Mr. A.
Holland Forbes and Augustus Post in a Gordon
Bennett Race at Berlin. Pages 935-947 from
Century magazine, Oct 1910.
201. Balloon Bulletins 168.6502-35D
(4-2023-48)
War Dept. Balloon Bulletins from World War I.
Scientific and military reports, diagrams,
specifications, procedures, etc. Apr-Sep 1917.
202. Balloon Notes, A.E.F. #1, 3 Dec 1917 248.211-83Q
(4705-55)
"General Notes on Organization and Tactics
Indispensable to the Balloon Observer." Covers
organization, what the observer should look for,
remarks on battle, etc., issued by Col C. DeForest
Chandler. 3 Dec 1917, 6p.
203. Balloon Notes, A.E.F. #11, 5 Jan 1918 248.211-83Q
#11
(4730-47)
Bulletin dealing with meteorology, physics,
and mechanics affecting balloon operations.
5 Jan 1918, 18p.
204. Balloon Notes, A.E.F. #12, 6 Jan 1918 248.211-83Q
#12
(4730-48)
Bulletin entitled "Military Subjects." Deals
with mapping, camouflaging guns, reporting
information, more. 6 Jan 1918, 14p.
205. Balloon Notes, A.E.F. #13, 7 Jan 1918 248.211-83Q
#13
(4758-16)
Bulletin entitled "Professional Subjects."
Covers tactical balloon employment, infla-
tion, general disposition and organization
of a balloon company. 7 Jan 1918, 12p.

206. Balloon Notes, A.E.F. #25, 28 Feb 1918 248.211-83Q
#25
(4730-63)
Report entitled "Firing Charts and the Reconnaissance Officer." Shows methods of locating targets and directing fire on them. 28 Feb 1918, 33p.
207. Collection of Balloon Notes 248.211-83D
(4758-39)
Notes issued by Col Chandler covering types of attacks made on balloons, duties, modification in equipment, balloon spotters, other balloon data. 1918, Vol 4.
208. Italy From a Dirigible Window 248.211-83G
(4719-108)
Trial trip of the dirigible "Roma" from Rome to Naples and return with three American officers as passengers. Kenneth L. Roberts. Pages 3-4, 63, 66, 69, 70 from the Saturday Evening Post, 13 Aug 1921.
209. America's Largest Aerial Battleship 248.211-83F
(4722-17)
Story of the dirigible R-34, built in England for the U.S. It was the first airship to fly across the Atlantic. Later renamed the ZR-2, it was to serve as a bomber. P. J. Risdon. Pages 24-26 of Popular Science Monthly, Sep 1921.
210. Aerial Age Weekly, 6 Mar 1922 248.211-83G
(4719-101)
Pages 610-611, "The 'Roma' Disaster," gives a list of dead and survivors of crash. Pages 612-614, "Report of the Aeronautical Research Committee on the R-38," gives a report of the crash of the R-38 in England on 25 Aug 1921. 6 Mar 1922.
211. Calculation of the Hull and of the Car--
Suspension Systems of Airships 159.852-2
(4722-164)
Translation by Maj Chaney, Rome, of an article by R. Verduzio in Rendiconti Tecnici, March 15, 1924. Covers theories, formulas issued in calculating airship design. Issued as Technical Memorandum No. 285 by the National Advisory Committee for Aeronautics. Mar 1924.

212. Voyage of the "Dixmude" Over Northern Africa 159.852-1
(4766-3)
Translation by the National Advisory Committee for Aeronautics of Lt Lemaire's description of the flight of the airship "Dixmude" over northern Africa, 25-30 Sep 1923. Originally printed, 15 Jan 1924, as pages 17-22 in La Technique Aeronautique. Mar 1924, 14p.
213. National Aeronautic Association Review 168.65042-21
(3-3527-29)
Bound volumes from Dec 1924 through Nov-Dec 1927. Mar 1925, pp 34-36; Apr 1925, pp 59-60, 63; Apr 1925, pp 50-51; Jul 1925, pp 100-103, 111; Oct 1925, pp 147-148; Feb 1926, p 23; Jun 1927, p 89; and Aug 1926, p 115, 117, 119. Several minor entries regarding balloon races and records are scattered throughout the magazines. 1924-1927.
214. Clippings of "Shenandoah" Disaster 168.6566-1
(3-3527-36)
Deals with reports, investigations, etc., into crash of "Shenandoah." Clippings stapled to sheets of paper and bound together. 1925.
215. Clippings About Langley Field 285.49-1
(4721-115)
Newspaper clippings from Virginian - Pilot and the Norfolk Landmark. "Station Plays Major Role in Nation's Coast Defense Plan" by Capt Floyd E. Galloway. 1 Jan 1927.
216. The Story of the Airship 168.6005-10
(5-3180-100)
Excellent report of the different types of balloons. Many photos. Publication by Goodyear Tire and Rubber Co., 1927, 16p.
217. Famous Flights of History 168.7032-25
(3-8205-129)
Publication celebrating man's 25th anniversary of heavier-than-air flight. Stories, diagrams, and photos of early balloons and airships. One article by Cornelius Vanderbilt, Jr., entitled "Sky Liners of the Future." Feb 1929, 48p.

218. Clipping About Langley Field 285.49-1
(4743-56)
Clipping from Virginian - Pilot and the Norfolk Landmark. "Langley Field Rapidly Becoming Army Aviation Center" by Lt Col J. W. S. Wuest, Commandant, Langley Field. Photo of dirigible landing at Capitol, Washington, DC, 1 Jan 1930.
219. Air Corps Technical Reports on Ascent to the Stratosphere of the "Explorer" 168.6005-15
(5-3180-105)
Translation #303 from L'Aeronautique, No. 186, Nov 1934. Description of flight into the stratosphere by Maj William E. Kepner, Capt Albert W. Stevens, and Capt Orvil A. Anderson. Balloon developed a tear causing them all to bail out. All landed safely. 4 Feb 1935, 23p.
220. Air Corps Technical Report on Ascent to the Stratosphere of the "Explorer" 168.7006-10
(6-3586-165)
Translation by Ursula E. Athenstadt. Same subject as above. Pierre Le'Glise. L'Aeronautique, No. 185, Oct 1934, pp 241-247 and No. 186, Nov 1934, pp 273-276.
221. Studies Planned for New Stratosphere Flight With Helium 168.6565-11
(3-1559-54)
Planning behind 1935 flight of "Explorer II" by Capt Orvil Anderson and Capt Albert W. Stevens. Pages 794-800 from National Geographic magazine, Jun 1935.
222. Air Corps Newsletter, 1 Dec 1935 167.63
(1901-79R)
Pages 1-4 cover story of "Explorer II" setting altitude record of 72,395 feet. Pages 9-11 give story of the first Gordon-Bennett Balloon Cup Race won by Col (then Lt) Frank P. Lahm and Maj Henry B. Hersey. 1 Dec 1935.
223. Air Corps Newsletter, 1 Jan 1937 167.63
(4724-81)
"First Synthetic Rubber Balloon Constructed." One photo. Breakthrough in balloon construction. 1 Jan 1937, pp 39-40.

224. Air Corps Newsletter, 15 May 1940 167.63
(4-1472-64)
"Lighter-Than-Air Unit Participates in Maneuvers." Movement of 1st Balloon Squadron from Ft. Sill, Oklahoma, to east Texas. Names and personal anecdotes. 15 May 1940, pp 3-4.
225. Air Corps Newsletter, 15 Jun 1940 167.63
(4-1742-65)
"Balloon Squadron Returns From Maneuvers." Half-page story on return of 1st Balloon Squadron to Ft. Sill, Oklahoma. 15 Jun 1940, p 18.
226. Haul Down and Ease Off, Aug 1941 K146.002-1
(5-4537-2)
"Balloons Serve as Aerial Milestones." Brief history of balloons. Aug 1941, pp 7 and 14.
227. Air University Quarterly Review, Summer 1948 K239.309
V. 2-1
(2-3933-5)
Article by Paul W. Litchfield entitled "Potentialities of Airships" stressing the benefits of airships for both warfare and transportation. Summer 1948, pp 16-25.
228. Air Power, Spring 1954 K512.309C
Vol. 1-3
(2-6385)
Two articles on airships:
1. "A Future for Airships In Peace and War" by Squadron Leader P. W. Hilmore. pp 299-302.
2. "A Flight In a Non-Rigid Airship" by Squadron Leader J. R. Musgrave. pp 308-310.
229. The Air Power Historian, Jan 1957 K239.3095-1
(4-1524-1)
"Ballooning in the Stratosphere." Narrative of "Explorer I and II" missions. Several photos. Maj Gen Orvil A. Anderson, Jan 1957, Vol 4-1, pp 3-14.

230. Haul Down and Ease Off, Oct 1958 K146.002-1
(5-4537-7)
"GAC Develops a New Blimp" - Design of ZPG-3W airship for AEW Picket Patrol. "Modern Balloon Corps described by Col Moore." Also describes early ballooning. Oct 1958, pp 1 and 11.
231. Haul Down and Ease Off, Apr 1959 K146.002-1
(5-4537-7)
"Balloons are Still in Aero News." Anecdotes on early ballooning. Apr 1959, pp 7-8.
232. The Airpower Historian, Oct 1959 K239.3095-1
(4-4831)
"Benjamin Franklin on Aeronautics" by Russell J. Parkinson. Details Franklin's experiences and observations about ballooning, pp 245-247. "General Fitz John Porter and the Civil War Balloon" by Russell J. Parkinson. Story of Flight of General Porter, pp 259-261. Oct 1959, Vol 6-4.
233. Military Affairs K146.01-2
(5-3894-12)
"United States Signal Corps Balloons, 1871-1902" by Russell J. Parkinson. Well-written study of ballooning with several anecdotes not seen in most histories. Winter 1960-1961, Vol 24-4, pp 189-202.
234. The Airpower Historian, Apr 1961 K239.3095-1
V. 8-2
(5-2487-2)
"The Peripheral Weapon In Wartime: A Case Study" by Dr. Robin D. S. Higham. Description of the British naval rigid airship program from its inception through the mid-1920's. Apr 1961, pp 67-78.
235. The Airpower Historian, Jul 1961 K239.3095-1
V. 8-3
(5-2673)
"The Zeppelin Bomber" by Dr. Douglas H. Robinson. Description of the development, use, and effectiveness of German airships in World War I. Jul 1961, pp 130-147.

236. Haul Down and Ease Off, May 1963 K146.002-1
(5-4398)
"History of Balloons, First Army, A.E.F." by
Craig S. Herbert from the official Chandler-
Fravel report. Anecdotes on World War I
ballooning. May 1963, p 6.
237. Flight International, 16 Jan 1964 K168.93-16
(6-1250)
"What Happened to Robert Cocking" by Henry
Hegener. Story of the last jump and death
of Robert Cocking. 16 Jan 1964, pp 101-102.
238. Aerospace Historian, Oct 1965 K239.3095-1
V. 12-4
(6-2703-2)
"The ZRCV" by Richard K. Smith. Article
describing the use of airships to carry
planes for reconnaissance/bombing. Oct 1965,
pp 115-121.
239. Air University Review, Feb 1966 K239.309
V. 17-2
(6-2809)
"The Dirigible - A Reconsideration" by Maj
John H. Scrivner, Jr. A description of the
demise of the great airships and a demand
for re-examination of their feasibility.
Jan-Feb 1966, pp 32-44.
240. Aerospace Historian, Summer 1966 K239.3095-1
(6-3151-2B)
"The Day America Took to the Air" by Samuel
S. Whitt. Story of America's first manned
free flight in a balloon - 21 Nov 1783.
Summer 1966, Vol 13-2, pp 44-46.

PHOTOGRAPHS

241. Negatives - Early Flight 167.601-16
(4-2831)
Collection of large 8" x 10" negatives. One shows Army dirigible #1 in flight. Two show observation balloons. The remaining eight are of Wright flyers. 1909.
242. Documentary Supplement to History of Langley Field, Virginia, 1916-1945, Vol 2 285.49-1C
(4-2772-4)
Photos 25, 27, 28, 45, 46, 47, 48, 49, 50 are of balloons and airships. 1916-1945. Vol 2.
243. Assorted Photographs 168.6005-152A
(5-3180-301)
Two photographs showing man sitting at nose entry to airship, one showing two unidentified officers with balloon trophy, one showing balloon race at Bettis Field, Pennsylvania. Letter asking for meeting with Capt Kepner. 1920-1930.
244. Airships of Langley Field, 1921 167.408-5
(1009335)
Collection of 149 photographs showing bombing of the ships "Frankfurt," "Ostfriesland," and "Alabama" by Gen Billy Mitchell's planes. Seven photographs at front of collection show airships. May-Nov 1921.
245. "Roma" Crash - Photographs and Documents 248.211-83
(4719-103)
Photographs of the "Roma" and the crash which occurred on 21 Feb 1922. Telegram from Lt Emerson to Maj Johnson. 21 Feb 1922.
246. Langley Field, Virginia - 1923-1930 285.49-1
(4761-15)
Miscellaneous photos, clippings, invitations at Langley Field, Virginia, 1923-1930. Aerial photos showing field with balloon hangar, dirigible outside hangar. 1923-1930.

247. Supplement to History of Langley Field,
1916-1940 168.3952-192
(No access #)
Eight photos of balloons in flight and in
hangars. 1923-1933.
248. Photographs of Balloon and Airship Equipment 248.101-14C
(4777-100)
Forty-two photographs in a bound volume with
descriptions at the bottom of each photo.
Observation balloons, airships, and related
equipment are the subjects.
249. Letter and Photographs - Kepner 168.6005-152B
(5-3180-302)
Letter to Capt Kepner from J. E. Igou with
small photographs. One shows Capt Kepner and
Capt Gil Ervin near airship. The other shows
Charles Lindberg in civilian clothes walking
away from an airship. 1927.
250. Photographs of the ZMC-2 168.6005-152C
(5-3180-303)
Seven photos of the U.S. Navy dirigible ZMC-2
on the ground and in the air, 19 Aug 1929.
251. The Official Pictorial History of the AAF,
1861-1945 168.6005-123
(5-3180-282)
Narrative and photographs of America's Army
Air Force through World War II. Pages 8-19
and 87 cover balloons and airships. Historical
Office of the Army Air Forces. New York, Duell,
Sloan, and Pearce, 1947, 213p.

See also: 248.211-83D
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Vol 2
(4722-51)

216.2101-6
27 Mar 1931
(4722-61)

ADDITIONAL DOCUMENTS CONTAINING A SMALL AMOUNT
OF INFORMATION ON MANNED BALLOONS (Titles Only)

1. History U.S. Army Air Service
1862-1920 and Supporting Papers 168.65011-5
1862-1920
2. Declaration Between the U.S. and Other
Powers Prohibiting the Discharge of
Projectiles and Explosives from Balloons/
Comparison of the Plan for the League of
Nations 168.6563-3
28 Feb 1910
3. Jones Chronology 168.6501-9
Jan-Jun 1911
4. Jones Chronology 168.6501-10
Jul-Dec 1911
5. Jones Chronology 168.6501-11
Jan-Jun 1912
6. Jones Chronology 168.6501-12
Jul-Dec 1912
7. Jones Chronology 168.6501-13
Jan-Jun 1913
8. Jones Chronology 168.6501-14
Jul-Dec 1913
9. Jones Chronology 168.6501-16
Jul-Dec 1914
10. Jones Chronology 168.6501-17
Jan-Jun 1915
11. Jones Chronology 168.6501-18
Jul-Dec 1915
12. Jones Chronology 168.6501-19
Jan-Apr 1916
13. Jones Chronology 168.6501-20
May-Jun 1916
14. Jones Chronology 168.6501-21
Jul-Aug 1916

15. <u>Jones Chronology</u>	168.6501-22 Sep-Dec 1916
16. <u>Jones Chronology</u>	168.6501-23 Jan-Mar 1917
17. <u>Jones Chronology</u>	168.6501-26 Jun 1917
18. <u>Balloon Notes, A.E.F. #24,</u> <u>17 Dec 1917</u>	248.211-83Q 17 Dec 1917
19. <u>Jones Chronology</u>	168.6501-31 Dec 1917
20. <u>Balloon Orders, Charts, Etc.</u>	167.601-7 1917-1919 Folder #1
21. <u>Jones Chronology</u>	168.6501-32 Jan-Feb 1918
22. <u>Jones Chronology</u>	168.6501-38 Jul-Dec 1919
23. <u>"Roma" Tracing Cloth</u>	248.211-83G 20 Dec 1921
24. <u>Jones Chronology</u>	168.6501-41 1921
25. <u>Lecture Topics - Form 1</u>	248.2603B 1934
26. <u>Lecture Outline - Balloons and</u> <u>Airships Course</u>	248.2604B-1 2 Jan 1935
27. <u>Form II - Lecture Outline</u>	248.2604B-2 3 Jan 1935
28. <u>Form II - Lecture Outline</u>	248.2604B-3 4 Jan 1935
29. <u>Form II - Lecture Outline</u>	248.2604B-4 8 Jan 1935
30. <u>Form II - Lecture Outline</u>	248.2604B-5 10 Jan 1935

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| 31. <u>Form II - Lecture Outline</u> | 248.2604B-6
11 Jan 1935 |
| 32. <u>Form II - Lecture Outline</u> | 248.2604B-7
15 Jan 1935 |
| 33. <u>Form II - Lecture Outline</u> | 248.2604B-8
25 Jan 1935 |
| 34. <u>Legislation Affecting the Air Corps,
1935-1936</u> | 145.91-30
1935-1936 |
| 35. <u>Pre-World War II Aviation - Letters, Memos,
Etc.</u> | 145.91-311
Jan 1935-
Mar 1941 |
| 36. <u>Jones Chronology</u> | 168.6501-50
1940-1948 |
| 37. <u>Annual Report of the Army Service Forces
for the Fiscal Year 1944</u> | 173.1-1
1944 |
| 38. <u>Annual Report of the Army Service Forces
for the Fiscal Year 1945</u> | 173.1-1
1945 |
| 39. <u>Correspondence to E. T. Jones from
John Hettich</u> | 168.655-3
1946-1951 |
| 40. <u>Contributions of Balloon Operations to
Research and Development at the Air
Force Missile Development Center, Hollo-
man AFB, New Mexico. 1947-1958.</u> | K280.10-54G
(5-1171-2)
1959 |

100. Will Balloons Be Used in the Next War? 248.211-83R
(4778-74B)
Air Corps Tactical School study by Capt Lawrence F. Stone on balloons and airships and their possible use for patrol purposes. 1928, 44p.
101. Will Balloons Be Used in the Next War? 248.211-83R
(4766-26)
Handwritten notes for the above study. 1928.
102. Jones Chronology 168.6501-46
(3-1521-49)
Airship lands on steamer, "Graf Zeppelin" begins 9 years of passenger service, Cheney Award, other minor references. 1928-1929.
103. Miscellaneous Material 168.6005-14
(5-3180-104)
Report of accident observed by dirigible, topographic maps, balloon race orders for Capt W. H. Kepner, various Western Union messages, and letters. 1929.
104. Jones Chronology 168.6501-47
(3-1521-50)
"Graf Zeppelin" makes 18,000-mile trip, National Balloon Race, sub-cloud observation car demonstration, board to determine balloon-airship requirements. 1930-1931.
105. Erection and Flight Tests on TF-1-261 Airship as an Observation Balloon 216.2101-6
(4722-61)
Air Corps Technical Report by George E. Weidner. Description of tests, diagrams, photographs of instruments. Twelve photographs of the airship on the ground and in flight. 27 Mar 1931, 33p.
106. Characteristics and Estimated Performance of TC-13 Airship 216.2101-28
(4762-37)
Air Corps Technical Report by P. B. Smith. Description, dimensions, and cost of developing the TC-13 nonrigid airship. Features include lowerable "observation car" and fittings for bomb racks and machineguns. 12 Oct 1932, 16p.

107. Jones Chronology 168.6501-48
(3-1521-51)
Air Corps appropriation prohibits expenditures for new airships, Gen Foulois recommends abandonment, Capt Orvil Anderson and Capt Albert Stevens set official world altitude record of 72,394 feet in balloon "Explorer." 1932-1935.
108. Explorer Flight Material 168.7006-10
(6-3586-58)
Collection of Bureau of Standards reports, report to commanding officer, National Geographic Society, letters of Orvil Anderson after successful flight in "Explorer." 1933-1935.
109. Dissolution of Balloon Squadrons 145.93-72
(No access #)
Letters and reports on the pending dissolution by the balloon squadrons and their replacement by barrage balloons. Jun 1933-Jul 1940.
110. Report of the Joint Board of Review Appointed to Investigate the Causes of the Accident to the Stratosphere Balloon "Explorer" 168.7006-10
(6-3586-60)
Report issued on 17 Sep 1934 covering events and causes of accident to "Explorer." 1934, 28p.
111. Aerial Photograph Study 168.7006-10
(6-3586-164)
Study prepared by Lt B. B. Talley on vertical aerial photographs taken by the "Explorer" in 1934. Photographs, graphs. 1934.
112. Drawing 168.7006-10
(6-3586-61)
Drawing Gp-0899 of a 3,700,000-cubic-foot balloon (Goodyear Zeppelin Corp). 7 Jan 1935.
113. Telegrams 168.7006-10
(6-3586-59)
Collection of telegrams to Orvil Anderson after successful flight in the "Explorer." 1935-1936.
114. Committee Study Lighter-Than-Air, Recommendation for Program and Details of Employment 248.211-31
(4686-42A)
Study and recommendations on use of lighter-than-air craft. May 1936.

115. Jones Chronology 168.6501-49
(3-1521-52)
Maj Kepner recommends development of barrage balloons, no appropriations for airships, "Hindenburg" completes 1 year's operations. 1936-1939.
116. Letters to Orvil Anderson 168.7006-10
(6-3586-57)
Collection of letters to Orvil Anderson subsequent to world record altitude flight. 1936-1939.
117. Lighter-Than-Air, Recommendation for Program and Details of Employment 248.211-31A
(4722-54A)
Study by Capt Edmund C. Lynch of the Air Corps Tactical School on value and service of observation balloons and airships. 1 May 1937, 16p.
118. Lighter-Than-Air Schools 145.91-430
(No access #)
Collection of documents pertaining to lighter-than-air schools--organization, manning, and support. Details cost of moving 21st Balloon Group Headquarters from Scott Field, Illinois, to Brooks Field, Texas. July 1938-Nov 1939.
119. Data for Army Register - 1938 167.91-13
(2-4854-247)
Unit organizations, redesignations, and battle honors for 1st, 2nd, 3rd, 4th, 5th, 6th, 8th, and 12th Balloon Squadrons. 1938.
120. Balloon Letters and Memos 145.91-516
(No access #)
Letters and memos pertaining to aerial mining with balloons, training of balloon corps observers, and defects in dilatable type balloons. Aug 1940-Mar 1941.
121. History of Airship Squadron Fifty-One, Detachment Two 460.073
(5119-1)
Brief history of Det. 2, Airship Squadron 51, located at Trinidad, British West Indies. Apr 1943-Jun 1943, 2p.

122. Rosters 167.401-20
(3-1637-9)
Listing of balloon companies, squadrons, groups,
and wings showing date and place organized.
Circa 1947. Vol 9.
123. History of the Bureau of Aircraft Production K201-68
(2-2298-4A)
Chapter XLVII, "Balloon History" (pp 2296-
2415), gives a detailed study of balloons.
Chapter XLVII, "History of the Helium Project"
(pp 2415-2459), covers efforts to produce helium.
Sep 1951. Vol 8.
124. Biographical Information Requested by Admiral
Rosendahl K110.7004-65
(3-4971-15)
Information prepared on some of the famous
airship pilots, generally one page or less
on each. Feb 1957.
125. Brief History of the Airship "Roma" K146.01-123
(5-1344)
Description of the history and the last
flight of the airship "Roma" by Col John D.
Reardon, USAF (Ret). Col Reardon was one of
11 survivors of the crash. 22 Mar 1960, 15p.
126. Interview Transcript - Beachey K146.34-8
Beachey
(5-4410-8)
Interview conducted with Hillary Beachey in
Apr 1960. First four pages cover exploits
of Lincoln and Hillary Beachey in dirigibles
before Lincoln switched to stunt flying.
Citation or duplication prohibited except
when granted by interviewee. Apr 1960.
127. Interview Transcript - Dollfuss K146.34-38
Dollfuss
(5-4410-38)
Interview in Oct 1960 conducted with Charles
Dollfuss. (In 1960, he had record for balloon
ascensions.) Pages 1-10 tell of his balloon
experiences, pages 24-28 tell of balloon and
dirigible flights. Citation or duplication
prohibited except when granted by interviewee.
Oct 1960.

128. Interview Transcript - Pruss
Interview conducted with Capt Max Pruss, zeppelin pilot. He was Commander of the "Hindenburg" when it burned at Lakehurst, New Jersey, in 1937. Citation or duplication prohibited except when granted by interviewee. Oct 1960, 22p.
K146.34-83
(5-4410-74)
129. Interview Transcript - Roxbee Cox
Interview conducted with Sir Harold Roxbee Cox concerning his work in airship design. Citation or duplication prohibited except when granted by interviewee. Nov 1960, 28p.
K146.34-89
(5-4410-80)
130. Interview Transcript - Nobile
Interview conducted with Umberto Nobile, airship designer. He designed the airship "Roma." Later attempted flight to the North Pole in an airship but crashed. Citation or duplication prohibited except when granted by interviewee. Nov 1960, 69p.
K146.34-74
(5-4410-100)
131. Interview Transcript - Anderson
Interview conducted with Gen Orville A. Anderson - airship pilot, balloonist, and aviator. (See K112.1-15, 2 May 1895-23 Aug 1965.) Citation or duplication prohibited except when granted by interviewee. Dec 1960, 52p.
K146.34-3
(5-4410-3)
132. Interview Transcript - Brittain
Interview in 1960 with Sir Harry Brittain. First five pages tell of his experiences in balloons, pages 19-26 cover dirigibles. Citation or duplication prohibited except when granted by interviewee.
K146.34-18
Brittain
(5-4410-18)
133. Jean Francois Pilatre de Rozier, 1765-1785
Story by Capt Page Sharp, Jr., on the first man to fly and die in a balloon. 1962, 3p.
K237.041-11
(5-3353-11)

134. John Jeffries, Physician and Levitator K237.041-14
(5-3353-14)
Narrative by Maj Harvey W. Hertz on the first American to ascend in a balloon and to cross the English Channel (with Blanchard). Good anecdotes. 1962, 8p.
135. Personal Correspondence of Maj Gen Orvil A. Anderson, Jan-Dec 1962 168.7006-43
(8-1295-2)
Story by Gen Anderson about Civil War balloons. Begins with story of his own jump from a balloon in 1921. Many handwritten comments in border of typewritten story. 1962.
136. The Montgolfier Brothers K237.041-20
(5-3353-20)
Story by Maj Roland H. Shamburek on the discoveries made by the Montgolfier's in ballooning. Descriptions of first ascents. 1962, 6p.
137. The Story of Balloons in Aviation K237.041-6
(5-3353-6)
Narrative by Capt James R. Wamsley on ballooning from Montgolfier in 1783 to "Stratolab" of 1957. 1962.