Guide to the Vernon L. Rogallo Papers, 1948-1992

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Descriptive Summary

Title: Vernon L. Rogallo Papers

Date (inclusive): 1948-1992

Collection Number: PP14.02

Creator: Rogallo, Vernon L.

Extent: Number of containers: 7
Volume: 5 cubic feet

Repository: Ames Research Center, Ames History Office

Moffett Field, California 94035

Abstract: The Vernon L. Rogallo Papers feature technical publications, memoirs, albums, photographs, and artifacts related to Rogallo's employment as an engineer for the National Advisory Committee for Aeronautics (NACA) Ames Aeronautical Laboratory and the National Aeronautics and Space Administration (NASA) Ames Research Center, as well as his family's aerobatic kite flying team "The Rockets," which was a vehicle to publicize the Flexikite. The Flexikite, which was based on Vernon's brother Francis's own design and aptly named the "Rogallo Wing," was marketed and distributed on the West Coast by Vernon.

Language: English

Access

Collection is open for research.

Publication Rights

Copyright does not apply to United States government records. For non-government material, researcher must contact the original creator.

Preferred Citation

NASA Ames History Office, NASA Ames Research Center. Moffett Field, California. PP14.02, Vernon L. Rogallo Papers, 1948-1992, [Container number]: [Folder number]. [Identification of item]. [Date, if available].

Abbreviated Citation

NASA ARC. PP14.02, [Container number]: [Folder number]. [Identification of item]. [Date, if available].

Administrative Information

Separated Material

Various NASA publications such as educational material on aeronautics and the Space Age, fact sheets on various NASA space programs, photographic prints featuring Gemini and Apollo crew, pre launch and space walks, as well as duplicate NASA Technical Note reports were separated and transferred to the NASA Ames Research Center Technical Library and History Office Archives Reference Collection (AFS1070.8A). A sample of the red nylon parachute material used to make the uniforms was retained.

Acquisition Information

Donated by Phoebe J. Flynn on March 5, 2014.

Biographical History

Vernon L. Rogallo graduated from the University of California, Berkeley in 1942 with a degree in Mechanical Engineering. In October, shortly after graduating, Rogallo was employed by Hughes Aircraft in Culver City, California where he was in charge of range studies for the Spruce Goose until June 1944. In April 1948 Rogallo joined the Ames Aeronautical Laboratory of the National Advisory Committee for Aeronautics (NACA) at Moffett Field, California. He was employed at Ames for nearly 21 years. From 1948 to 1958 he worked as an aeronautical research scientist and project engineer in the 40 x 80-foot wind tunnel where his research led to numerous published technical papers, and paved the way for some of his later inventions, such as a propeller blade loading control. After the establishment of the National Aeronautics and Space Administration (NASA) and the absorption of NACA in 1958, Rogallo, started working in the instrumentation division. It was there he developed instruments for biomedical, aeronautical, and space research applications until his retirement in September 1969. Rogallo is best known for his work during this period, specifically his adaptation of a Momentum Transducer into a Ballistocardiograph, a device that still endures today for its medical application as an instrument to measure ballistic forces on the heart. While working on the Ballistocardiograph, Rogallo earned the nickname "egg man" of Ames due to his use of the highly sensitive instrument to measure the heartbeat of avian embryos. At least six of Rogallo's inventions at Ames were awarded patents including: Propeller Blade Loading Control (1964), Null-Type Vacuum Microbalance (1965), Thermo-Protective Device for Balances (1965), Force Transducer (1967), Apparatus and Methods for Measuring Energy of Light Beams and Ion Beams (1968), and the Ballistocardiograph (1969).

Vernon's brother, Francis, also a mechanical and aeronautical engineer employed by NACA and NASA, worked out of Langley Field in Virginia. Francis was responsible for a wing design commonly referred to as the "Rogallo Wing" which had applications for both aviation and recreation. Francis's design was originally conceived as a possible landing system for the Gemini space capsule. Francis and his wife Gertrude designed an aluminized Mylar kite they called the "Flexikite" which became the forerunner of today's hang gliders and paragliders. Vernon was so excited about the new kite's possibilities that he became the West Coast distributor and started a family aerobatic kite flying team called "The Rockets." The Rockets consisted of Vernon, his wife June, his three daughters Phoebe, Diana, and Mary, and even the family dog Chalky. Donning matching team uniforms that June made from red nylon parachute material and armed with a suitcase filled with kites, the Rogallo's would present kite-flying demonstrations around the Bay Area as onlookers watched in awe.

During his retirement Rogallo pursued research into unconventional aircraft designs such as the forward swept wing, as well as the use of unducted fans on modern aircraft. Due to the rampant theft of bicycles in the Bay Area, Rogallo also invented a u-style bicycle lock in 1970, one of the first of its kind. Vernon Rogallo passed away in McMinnville, Oregon in 2005.

Indexing Terms

The following terms may be used to index this collection.

Corporate Name

Ames Research Center

United States. National Advisory Committee for Aeronautics

United States. National Aeronautics and Space Administration

Personal Name

Rogallo, Vernon L.

Rogallo, Francis M. (Francis Melvin), 1912-2009

Subjects

Bioinstrumentation

Ballistocardiography

Flexible wings

Flexikite

Propellers--Research

Stunt Kites

Geographic Names

Moffett Field (Calif.)

Scope and Content

The Vernon L. Rogallo Papers span from 1948 to 1991 with the bulk of material being from 1951-1970. The collection contains: research publications, articles, an Ames retirement album, snapshots, photographs, negatives, a VHS videocassette, memorabilia, and artifacts such as an aluminum propeller used in wind tunnel tests, and numerous examples of the various kites based on the Rogallo wing design. The collection is arranged in two series. The first focuses on Rogallo's contributions to engineering and his time at NACA Ames Aeronautical Laboratory and NASA Ames Research Center in Moffett Field, California. The second focuses on the implementation of the "Rogallo wing" design (designed by Vernon's brother Francis) as a hobby stunt kite, and Vernon's family aerobatic kite flying team "The Rockets." The bulk of the material includes a newspaper article as well as the numerous press photographs and corresponding negatives taken for the article. Also included are memoirs about the Rogallo family including Francis.

Arrangement of the Vernon L. Rogallo Papers

The Vernon L. Rogallo Papers were received in no discernible original order, so an arrangement was imposed. The records are arranged in two series. The contents of Series I are grouped by Rogallo's research and inventions, followed by photographs and memorabilia. Each group is then arranged chronologically. The contents of Series II are grouped by format.

The papers are arranged into two series:

Series I, Engineering Papers, 1948-1992

Series II, The Rockets: The Rogallo Wing and Flexikites, 1954-1991

Series I **Engineering Papers 1948-1992**

Physical Description: 18 folders.

Scope and Content Note

This series reflects Vernon Rogallo's employment as an Aeronautical Research Scientist and Project Engineer at Ames from April 1948 to September 1969 as well as his post retirement inventions and research. Included are Rogallo's publications on propeller and upwash research, as well as numerous articles and technical notes related to Rogallo's momentum transducer and ballistocardiograph, the invention that earned him the nickname "egg man of Ames" due to his research measuring the heartbeats of avian embryos. This series includes an aluminum propeller used as a wind tunnel model, and six letters patent for inventions designed at Ames. Also included are: Rogallo's NASA retirement album, NACA staff photographs, snapshots taken at Ames in 1991, various memorabilia from Ames including NACA and NASA lapel pins, a patch, a decal, and records documenting his post-retirement research into unconventional aircraft wing shapes such as the W-wing and the use of unducted fan applications in modern aircraft. Also included is a design for a bicycle u-style lock.

Series II **The Rockets: The Rogallo Wing and Flexikites 1954-1991**

Physical Description: 13 folders.

Scope and Content Note

The second series focuses on the use of Vernon's brother Francis Rogallo's "Rogallo Wing" design as an aluminized Mylar hobby stunt kite marketed as the "Flexikite." Vernon embraced the Flexikite and took on its distribution in the West Coast. Vernon and wife (June), their three children (Phoebe, Diana, and Mary), as well as the family dog (Chalky) took to promoting the Flexikite by starting a family aerobatic kite flying team called "The Rockets" complete with matching uniforms. The models of Flexikites represented come in two types: hexagonal with a four-line harness and no tail, referred to as the "skittish racehorse" (Jet and Rocket) and the diamond with a six line harness with a tail, referred to as the "steady workhorse" (Comet and Shooting Star). This series contains examples of each, as well as the suitcase that was used to house and transport the kites. Also included in this series: memoirs, articles, a scrapbook, various photographs and their original negatives, an example of the red nylon parachute material used to make The Rockets' uniforms, and other examples of the Rogallo wing including a toy Mercury space capsule.

Series I: Engineering Papers, 1948-1992

Box 1, Folder 1	**Propeller and Upwash Research Publications (1 of 2) 1951-1953**
Box 1, Folder 2	**Propeller and Upwash Research Publications (2 of 2) 1951-1953**
Box 1, Folder 3	**Aluminum Propeller -- Wind Tunnel Model**
Box 1, Folder 4	**Momentum Transducer and the Ballistocardiograph (1 of 3) 1963-1965**
Box 1, Folder 5	**Momentum Transducer and the Ballistocardiograph (2 of 3) 1965-1969**
Box 1, Folder 6	**Momentum Transducer and the Ballistocardiograph (3 of 3) undated**
Box 1, Folder 7	**Piezoelectric Transducers and Some Unique Applications Invented by Vernon L. Rogallo, June 15, 1964. International News Conference, Washington D.C., April 9, 1964. (VHS Videocassette)**
Box 1, Folder 8	**Six Letters Patent 1965-1969**
Box 2, Folder 1	**Bicycle Lock 1970**
Box 2, Folder 2	**Significance of Research on Propeller-Plane Flow Fields, Originals and Copies 1989**
Box 2, Folder 3	**The Propeller as a Propulsion Device 1989**
Box 2, Folder 4	**W-Wing Proposal: Correspondence and Background Research**
Box 2, Folder 5	**Cordomatic**
Box 2, Folder 6	**NACA Staff Photographs 1948-1952**
Box 2, Folder 7	**NASA Ames Research Center Retirement Album 1969**
Box 2, Folder 8	**Loose Scrapbook Pages 1951-1991**
Box 2, Folder 9	**NASA Ames Research Center Snapshots January 16, 1991**
Box 2, Folder 10	**NASA Ames Research Center Memorabilia**

Series II: The Rockets: The Rogallo Wing and Flexikites, 1954-1991

Box 2, Folder 11	**Vernon Rogallo Family Flexikites (Memoirs and Articles)**
Box 2, Folder 12	**Flexikite Scrapbook**
Box 2, Folder 13	**"Peninsula Living" featuring the Rogallo Family March 5, 1960**
Box 2, Folder 14	**NASA Publications Featuring Francis and His Rogallo Wing**
Box 2, Folder 15	**The Vernon Rogallo Family Aerobatic Kite Flying Team (The Rockets) Photo Negatives**
Box 2, Folder 16	**Photographs 4 x 5**
Box 2, Folder 17	**Photographs 8 x 10**
Box 2, Folder 18	**Photograph, 8 x 10 on Oversized Board**
Box 2, Folder 19	**Photograph, Oversized**
Box 2, Folder 20	**Mounted Poster of Aircraft with Rogallo Wing, Oversized**
Box 2, Folder 21	**Kite Carrying Case with Kites and Accessories**
Box 2, Folder 22	**Red Nylon Parachute Material used for The Rockets' Costumes**
Box 2, Folder 23	**Toy Mercury Space Capsule with Para-Glider (Based on Rogallo Wing)**