



HISTORICAL ACHIEVEMENTS

VALLEY OF THE GIANTS



FREDERICK J. HOOVEN

A 1968 Deeds-Kettering Awardee, as well as a 1981 fellow member of the Dayton Engineers Club, **FREDERICK JOHNSON HOOVEN** was probably the most productive inventive genius of the Miami Valley in recent years.

Born in Dayton in 1905, he attended Dayton schools, University of Dayton, University of Michigan, and graduated from Massachusetts Institute of Technology in 1927. As a small boy 5 years of age, he first met Orville Wright, and at age 15, he asked Orville to help with a small airplane he and other boys were building; and thereafter, spent many hours in the Wright Dayton Laboratory. Many years later, in 1978, Fred completed a computerized analysis of the first powered aircraft, which indicated that additional stability was needed, and that only the determination and proper corrective actions of the pilot made the first flight a success.

Hooven joined the Engineers Club in 1925 as a student member, while working part-time at Dayton's DayFan Radio Co. Then, following graduation from MIT, he worked one year at GM Research in Detroit, one year at Dayton Rubber Co. in Dayton, one year at Wright Field, 1 year at American Loth Co. of Dayton, then five years as Chief Engineer for Bendix Radio Products Div. in Dayton. From 1939 to 1956, he was an Independent Consultant, working for such companies as P.R. Mallory, Harris-Seybold, Clevite, Ethyl, RCA, Master, Leland, YSI, WPAFB, and American Motor Products. In 1956, he joined Ford Motor Co. as an Executive Engineer, where he remained until 1967. His final employment was Dartmouth College's Thayer School of Engineering.

Hooven was co-founder of Yellow Springs Instrument Co. (YSI), (along with the Club's 1992 Fellow, Hardy Trolander) in 1948, and served as YSI Director in 1950-1966. He was also a Director of Hoover-Pohlmeyer Co., Master Consolidated, Inc. and Crease, Inc.

He was a well-known lecturer for many colleges and universities, including Antioch College, Fels Institute and Merrill-Palmer Institute. He was a former member of the Oakwood Board of Education and a Trustee of Miami Valley Hospital, Antioch College, and The Kettering Foundation.

A number of his many technical articles have been published, along with 38 US Patents, plus many foreign patents. His inventions include 17 radio and aviation navigation and landing instrument systems plus bomb release systems; six automotive ignition systems, three medical instruments, six photographic type compositions, and seven other automotive inventions (axles, brakes, springs, suspensions, plus a complete engine (1966 Olds Toronado).

Following his death, a letter was received by friends in May of 1985, from one of his close friends at Dartmouth College, which best summarizes the great values and lasting impressions that Frederick

Hooven left behind:

"I am writing to correspondents, colleagues and friends of Professor Frederick J. Hooven, who died suddenly on February 5, 1985. We, his friends and colleagues at Dartmouth, are making an effort to inform Fred's many correspondents of his death—his loss will be felt by all of us because of the gentle but profound impact he had on our lives. He not only gave us invaluable advice but his life and his love of people remain as an inspiration to us all.

Fred was a remarkable man whose interests encompassed so many fields that the volume of his correspondence is truly phenomenal. Not only was he interested in the Wright Brothers and aviation, but he was also interested in the auto industry and the future of the automobile. He was an accomplished musician, and some years ago described mathematically a method for tuning a piano as well as how to update the harpsichord while maintaining its characteristic and complex sound.

Fred was fascinated by optics and by railroads. Over a period of more than thirty years, he built and rebuilt a beautiful 1/45 scale model of a 1907 Baldwin steam locomotive and its tender, which he later wanted to photograph so that they would appear to be on the tracks by the station at White River Junction, near his home in Vermont. He had experimented with the photographic technique in the early fifties. He determined the proper optics, exposure setting and aperture necessary to put both the model and the station in perfect focus and in full scale, and in the resulting picture, the model cannot be distinguished from the real thing. It appeared on the cover of the February 1974 issue of Model Railroader. Characteristically, he wrote a paper for his files detailing his procedure, along with the photograph, so that he could show his friends and his grandchildren how it was done. He was very proud of that picture; in his wallet he carried it and a similar one showing a

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Remember When?

Who gave you that first glimpse of engineering science? What person had a profound effect on your life to steer you toward your career. It may have been a teacher, a parent, a neighbor or a co-worker. Someone at some time or another took the time to explain something to you which led you to a career in engi-

neering and science.

The Foundation wants to repeat that same experience to school children all over the Miami Valley. As the year draws to a close, it is time to consider your annual contribution to the Foundation. Our goals are high this year but the needs are great.

Projects we choose to fund

will affect children's lives in a profound way. We can only make that difference if you choose to make a difference and choose to contribute to the Foundation. Mail your contribution directly to the Engineers Club of Dayton Foundation, 28 E. Rahn Road, #100, Dayton OH 45429, 435-3434.

Engineers Club Foundation Lends Expertise

Lois Cook, who manages the Montgomery County Science Day, is beaming these days because of the hard work and productive results offered by a few past and current board members of the Foundation. Bill Dirkes presented

a two-hour workshop to high school students who wanted to learn how to plan.

He found the students to be interested in where they were going and how they were going to get there. The basics they learned

may be revisited as the kids grow and find out what life is all about.

For those of you who are interested in mentoring others in similar roles, just give Bill Dirkes a call. There is always room for a good volunteer.

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Blower Bentley parked in his driveway.

Fred wrote extensively on a wide variety of topics, and his family is currently examining his papers with the intention of eventually making them available to future students and scholars.

A brief and necessarily incomplete description of Fred's career appeared in the Boston Globe, the local Valley News, and other newspapers, and we have enclosed a copy of that account of this special man.

Fred loved the engineering school at Dartmouth—the Thayer School. He was lured here from the Ford Motor Company by Professor Robert C. Dean Jr. and the dean at the time, Dr. Myron Tribus. Fred undoubtedly had to forego some valuable Ford perks in order to come here, but he never regretted it. He drew strength from his students and was a superb teacher. His methods, of course, were his own, and usually different from anyone else's. He

used to say, only half-jokingly, that "we ought to charge students the full cost of their tuition the day they arrive and give them their diplomas the next day; any who really wanted to learn could stay as long as they wanted and we'd teach them everything we knew." It was typical of his slightly offbeat view of education. He had an enormous impact on nearly everyone he touched, not only because of his genius, but because of his love of life and his love of people. He was always the teacher, showing his secretary some new tricks he'd learned on his Macintosh, or helping someone to handle a new situation comfortably. He was a truly gentle man, in a time and place where so many with less ability seem harsh and egocentric. He always had time for your problems and always made you feel as though your personal decisions were the most important ones he would encounter that day. He was the kindest man I ever met; I

knew that if I were to introduce him to my mother that he would treat her with great respect and with a gentility that I could only aspire to.

All of us who knew him feel the void that Fred has left: his creativity, his love of people, and his dramatic ability to go to the heart of a problem, all combine to make him irreplaceable. It's important to remember, however, that throughout his remarkable life, which lasted almost eighty years, his enthusiasm, his wit and his concern left indelible marks on those of us whom he touched, for which we can always be grateful."

Frederick J. Hooven was truly a Giant to be proud of in this great VALLEY OF THE GIANTS!!

Note: Additional articles on Mr. Hooven can be found in the October 1968 and September 1985 issues of *The Engineer*.