



*H. Allen*

## Herbert Allen

1907–1990

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Herbert Allen, National Academy of Engineering member, died June 12, 1990, in Houston, Texas. During his eighty-three years, he demonstrated that opportunity awaits Americans with vision, with imagination, with a talent for motivating associates, and with energy for using these talents.

Born in an east Texas sawmill camp to parents of limited means, Allen planned from early youth to educate himself, both formally and informally. Friends, teachers, and business and community peers provided him opportunities for exchange of thought and information all throughout life. Such supplements to his formal education, he was a mechanical engineering graduate of The William Marsh Rice Institute, gave him an unusually broad and rounded education.

During his fifty-five plus years with Cameron Iron Works, Inc. of Houston, Allen held positions ranging from design engineer to president and chairman of the board of directors. At the same time, he served as a director of Big Three Industries, Inc., Texas Commerce Bank, Fenneco, and Spring Branch Bank. On retirement from Cameron, he formed and managed the Hallen Company.

In other nonengineering activities, he also served as chairman of the board of governors of The William Marsh Rice University, trustee of Texas Tech University, trustee of Southwest Research

Institute, director of The Houston Symphony Society, and director of The Houston Chamber of Commerce.

At least 389 U.S. and foreign patents listing Allen as sole or joint inventor have been issued. At the time of his death, he had some fifty-six applications pending. A number of these patents were issued from applications against which patent examiners applied few or no prior art references, requiring in consequence little or no reduction in the scope or subject matter originally claimed. Such patents evidence substantial originality.

In 1964 the American Society of Mechanical Engineers elected Allen a fellow of the Society, in 1972 a life fellow, and in 1973 elevated him to the grade of honorary member.

The Texas Society of Professional Engineers in 1961 elected Allen "Engineer of the Year." Rice University named him "R" Man of the Year in 1969, gave him its "Outstanding Engineer" award in 1975, and in 1978 presented him its "Distinguished Alumnus" award. The Houston Patent Law Association and the Houston Intellectual Property Law Association awarded Allen their "Inventor of the Year" honors in 1977 and 1989, respectively.

Through his ability to recognize and evaluate the scope of long-standing and imperfectly recognized problems, reinforced with much imagination and persistence, Allen created some highly original problem solutions. One such solution, affecting the economy of the entire world, dealt with a packing for use on closing members of high pressure valves. By providing a metal support for totally enclosing resilient material, he enabled valves to hold pressures substantially higher than the strength of the resilient material itself, while sealing against rough surfaces such as those of pipes suspended in oil and gas wells.

National defense also benefited from Allen's energy and imagination. In 1940 he selected a team of engineering talent that, working under his direction, substantially modified the construction of depth charge projectors so as to eliminate firing mechanism malfunctions. Under the team's supervision, Cameron designed and set up an automated plant to produce the stems and trays used in firing depth charges. With other groups, this team developed improved ways of manufacturing 3-inch, 50

caliber naval gun barrels, and designed hydraulically operated mounts for 40-mm Olerikon rapid-fire guns.

In the period between 1949 and 1986, Allen convinced the Naval Bureau of Ordnance of the feasibility of forging breech blocks, which had previously been made less economically and satisfactorily from steel castings. After receiving approval from the Bureau, he assembled and directed a team that successfully developed the equipment, alloys, and procedures for making superior breech blocks.

Allen freely acknowledged his debts to those who helped him in his struggles with poverty and illness—his teachers, friends, and early associates. But he reserved primary gratitude for his parents, Leona Matthews Allen and Jasper Allen, for supplying help and encouragement to the full measure of their abilities.

As one way of repaying his mentors, Allen during his life offered his help in various ways to younger people seeking to educate themselves. As an example, he and Mrs. Allen gave Rice University an administration office building now known as the Allen Center. Over the years the Allens endowed a very substantial scholarship fund at Rice, with scholarships to be awarded to students on the basis of academic achievement and leadership qualities. Allen willed the Hallen Company, along with the Thomas Instrument Company, to Rice for addition to this scholarship fund, the recipients of which are designated Herbert Allen Scholars.

In recognition of this trait of character, the South Texas Section of the American Society of Mechanical Engineers in 1972 established its Herbert Allen award. Each year, the section presents this award to a section member under thirty years of age for outstanding technical contributions to the profession of mechanical engineering. Herbert Allen is survived by his wife, Helen Daniels Allen, and children, Anne Allen Symonds and Michael Herbert Allen.