

From the Kansas Farm to the Engineering Hall of Fame

Walter E. Hanson, P.E., S.E., LHD

By Janice A. Petterchak

We view our practice of engineering as much more than just tests, computations and the preparation of drawings; it includes the development and interchange of new ideas, new dimensions in thought, and the determination of new and better ways of doing things.

Walter E. Hanson, P.E., S.E.



Mississippi River Bridge at Dubuque, Iowa was Walter Hanson's first experience with bridges in 1941. He designed several piers and retaining walls and drew the sheet showing the general plan and elevation.

As a young farm boy in eastern Kansas, Walter Edmund Hanson enjoyed learning how things were made and how they worked. On trips with his father to deliver eggs and cream, Walter observed and studied the progress of a bridge being constructed over a nearby creek. That interest directed his studies in civil and structural engineering at Kansas State College of Agriculture and Applied Science (now Kansas State University).

After graduation in 1939, Hanson worked briefly for a Texas geophysical engineering company, drawing contour maps of sub-surface rock formations and interpreting seismograph records to locate oil fields in Oklahoma and Texas. A year later he joined a Kansas City engineering firm, helping design the three-span, truss-arch Julien Dubuque Bridge across the Mississippi River. Upon completion, the American Institute of Steel Construction judged the structure "The Most Beautiful Bridge of 1943."

During World War II, Hanson trained as a Navy Airborne Radar Officer at Princeton University and the Massachusetts Institute of Technology, then served with Air Group 88. The end of the war found Hanson an instructor at the Barbers Point Naval Air Station, near Pearl Harbor, Hawaii.

Following the war, Hanson attained his graduate degree and became an associate professor of civil engineering at the University of Illinois, then Engineer of Bridge and Traffic Structures for the State of Illinois, based in Springfield. Under his direction, state engineers developed new methods of soil investigations and designed the first highway bridges using welded steel girders and pre-stressed concrete beams.

During that period he collaborated with U of I Professors Ralph B. Peck and Thomas H. Thornburn to co-author *Foundation Engineering*, a college textbook published by John Wiley & Sons. Current engineers and students throughout the world use the second edition, which has been published in several languages and dialects.

Then, in 1954, a college roommate contacted Hanson to design bridges for the Kansas Turnpike, from Wichita to the Oklahoma border. Walter and two partners founded the engineering firm W. E. Hanson & Associates in Springfield, traveling to Kansas for several months working on fifty-six bridges. "After that project was finished," he said, "we had to start promoting our firm in Illinois." With added professional staff, the partners branched into other areas, including foundation engineering.

As the firm grew, the partners further diversified into buildings, transportation engineering, and airport services. Contracts with AT&T for a nationwide communications system led to other projects throughout the country and, eventually, around the world.

In the early 1970s, Walter began a joint venture with another U of I alum, Augusto Rodriguez, in the Dominican Republic. Hanson-Rodriguez, S.A. designed four large dam and irrigation projects, providing hydroelectric power and flood control over thousands of acres. Partially funded by the World Bank and the International Development Bank, the projects were cited as prime examples of international cooperation in professional engineering.

One of the firm's major projects in the 1980s and 1990s was the Clark Bridge across the Mississippi at Alton, Illinois. The award-winning cable stayed bridge is 4,620 feet long — the first bridge in the United States to feature a combination of dual-plane cable stays supported by single pylons.

Now employee-owned and known as Hanson Professional Services, Inc., the firm that Walter Hanson founded more than fifty years ago has fifteen branch offices across the nation. Over that half-century, the company has been honored by ENR as a top design firm and in 2001 was named by *CE News* as one of the "Best Civil Engineering Firms

to Work For." Hanson engineers and support staff provide a variety of engineering, scientific, architectural, telecommunication, program management, and land acquisition services.

Active in the University of Illinois Civil Engineering Alumni Association, in 1973 Hanson received the organization's Honor Award for Distinguished Service and in 1982 its Distinguished Alumnus Award. Other citations include the Illinois Society of Professional Engineers' Illinois Award, the Structural Engineers Association of Illinois' John F. Parmer Award, and Life Fellow Membership in the American Consulting Engineers Council. In 1985 the American Society of Civil Engineers recognized Hanson with its Honorary Member Award.

No doubt, Hanson's most cherished honor was received recently, when he was elected to the Illinois Engineering Hall of Fame. His citation reads: "As an educator, author, practicing engineer and business owner in Illinois, Walter E. Hanson has been instrumental in promoting and advancing the engineering profession, researching new techniques and theories, and completing important engineering and infrastructure projects in Illinois and around the world."

Now retired, Hanson continues his interest in the field of civil engineering. He has authored articles, sponsored engineering scholarships, and made presentations to university and engineering organizations. In addition, he encourages Hanson employees to participate in educational forums. "Because I've been in both education and in practice, education is important to me. There are too many barriers between the academic and professional world; I'd like to see more cooperation and partnering between those two worlds. It should be done." ■

Janice A. Petterchak, a writer of biographies and business histories, is completing the life story of Walter E. Hanson.