



Stanley H. Stookey

S. DONALD STOOKEY

1915–2014

Elected in 1977

“Invention of glass, ceramics and photo sensitive glasses.”

BY CORNING INCORPORATED
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STANLEY DONALD STOOKEY, whose 1952 discovery of glass ceramics led to one of the most successful product lines in Corning Incorporated’s history, died November 4, 2014. He was 99 years old and lived in Pittsford, New York.

Dr. Stookey was born May 23, 1915, in Hay Springs, Nebraska. His family moved from Nebraska to Cedar Rapids when he was five. Some of his favorite childhood memories were of family fishing trips to Minnesota—a hobby that he continued to enjoy throughout his life.

He earned his bachelor’s degree in chemistry and mathematics from Coe College in Cedar Rapids in 1936 and his master of science in chemistry from Lafayette College in Easton, Pennsylvania, in 1937. The glass industry was an unknown territory to Dr. Stookey when he began looking for jobs in 1940 with his newly defended PhD dissertation in physical chemistry from the Massachusetts Institute of Technology (MIT). Although Dr. Stookey didn’t consider himself one of the top scholars in his graduating class, he was excited about finding a job that gave him a chance to explore. The problem was, in 1940, scientific frontiers seemed to be few and far between: few real secrets seemed to be left in what he called the “conventional sciences of chemistry and physics.” When J.T. Littleton and William Chittenden Taylor from Corning showed up at

MIT looking to fill three positions, Stookey considered glass for the first time.

He was invited to interview at Corning as a candidate for a position as a glass technologist, overseeing melting research in the production department under Corning's chief engineer Walter Oakley. His record at MIT had not prompted Littleton the physicist or Taylor the chemist to think of him initially as a candidate for the fundamental research slot—investigating opal glasses. But somehow at the end of his visit, Stookey had convinced Littleton to hire him for the research position at an annual salary of \$2,500 per year.

After Dr. Stookey joined Corning, he immersed himself in exploratory research, studying the complex chemistry of oxidation and its effects on the color of glass as it changes temperatures—discoveries that helped lead to the development of Fotoform[®] glass—a composition that allowed chemicals to, in effect, punch minuscule holes in glass. The application had potential for use in the nascent color television tube market.

He secured his place in Corning folklore in 1952 when he put a Fotoform disc into a furnace set at 600 degrees Celsius. The furnace malfunctioned and the temperature rose to 900 degrees Celsius. Expecting to find a molten mess in the furnace, Dr. Stookey instead discovered an opaque, milky-white disc. He removed it from the furnace, but his tongs slipped and the disc bounced unbroken on the floor, clanging like a piece of steel. "It crystallized so completely that it could not flow," he later wrote, "and was obviously much stronger than ordinary glass."

While the formation of this first piece of glass ceramics was "a lucky accident," Dr. Stookey said, he followed up with years of rigorous research. Ultimately, he confirmed his belief that nucleation—the critical first step in the crystallization process—could initiate a host of new crystalline materials from glass. Corning patented the material as Pyroceram[®] glass ceramics, the basis for the CorningWare[®] line that became a staple in the consumer cookware world for decades.

That innovation, along with other breakthrough exploratory research in the areas of photochromics and photosensitive glass, earned Dr. Stookey the National Medal of Technology and Innovation in 1987, a place in the National Inventors Hall of Fame in 2010, and a host of other prestigious recognitions. He earned 60 US patents over the course of his career. Corning's top award for its own leaders in exploratory research is named in Dr. Stookey's honor.

Dr. Stookey was elected to the National Academy of Engineering in 1977. He was a member of Sigma Xi, the British Society of Glass Technology, and American Chemical Society, a fellow and Distinguished Life Member of the American Ceramic Society, a fellow of the American Institute of Chemists, and a Rotary Club member in Corning.

He was honored with many awards throughout his career, including the John Price Wetherill Medal of the Franklin Institute (1953 and 1962); Coe College Alumni Award of Merit; Ross Coffin Purdy Award of the American Ceramic Society; Toledo Glass and Ceramic Award; Inventor of the Year Award, George Washington University; Award for Creative Invention of the American Chemical Society; Eugene C. Sullivan Award, Corning Section, American Chemical Society; Beverly Myers Achievement Award of the Educational Foundation in Ophthalmic Optics; Phoenix Award of the Glass Industry; Achievement Award of the Industrial Research Institute; Samuel Giejsbeek Award of the Pacific Coast Sections, American Ceramic Society; and Distinguished Inventor Award, Central New York Patent Law Association.

He retired from Corning in 1978 but continued to consult in its laboratories, especially on glass manufacturing processes and photosensitive glass. In addition, he continued to mentor both young and experienced scientists at the company many years after he retired.

Besides his contributions to Corning's innovation portfolio, Dr. Stookey was dedicated to community service—in particular, issues facing the elderly population in Corning. In the early 1970s, he helped lead a task force that eventually resulted in the construction of the Dayspring housing complex in Corning.

On a personal level, Dr. Stookey considered his family his finest achievement. He lived life fully, appreciative of his family and dear friends. He enjoyed fishing close to home and around the world on adventurous trips. He fished for marlin and sailfish off of Mazatlán, Cozumel, and squaretail trout in Quebec. Other fishing expeditions took him to the Arctic Circle on Great Bear Lake and Makokibatan Lake in Northern Ontario. He also traveled to Europe, the Caribbean Islands, the Orient, and Katmandu.

Dr. Stookey is survived by two sons and their spouses, Dr. Robert A. (Sally) Stookey of Pittsford, NY, and Donald B. (Beth) Stookey of Utica, NY, and several grandchildren and great-grandchildren. He was predeceased by his wife Ruth and daughter Margaret A. Zak.

