



*George W. Fuller, when president of the American Public Health Association in 1928. (Water Works and Sewerage, July 1934, p.235)*

150  
YEARS

# George Warren Fuller

## Industry Pioneer

**I** *t is not often that people have awards named after them, and sometimes we can forget their achievements and the reasons they were initially honored if too much time passes. In the case of George Warren Fuller, if you work in sanitary engineering, it is hard to forget his accomplishments.*

The George Warren Fuller Award is presented annually to one member of each section of the American Water Works Association (AWWA). It is based on recommendations from the sections for distinguished service in the water supply field and “in commemoration of the sound engineering skill, the brilliant diplomatic talent and constructive leadership talent” that characterized Fuller’s life. Fuller also was Chairman of the Editorial Advisory Board of *Municipal Sanitation* since the maga-

zine’s inception in 1931 until his death in 1934.

Fuller was born in Franklin, Mass. in 1868. His paternal ancestors had settled in America in 1642, establishing a home in Dedham, Mass. Fuller graduated from high school at the head of his class, with the highest marks given at that time. He graduated from the Massachusetts Institute of Technology (MIT) in 1890. He then studied for about a year at the University of Berlin in the private office of C. Piefke, the engineer of the Berlin Water Works.

### Instrumental in Sanitary Engineering

After returning to Massachusetts, he worked for the State Board of Health for nearly five years, where he was in charge of the Lawrence Experiment Station. There, he extended the experimental work and studies of Allen Hazen to develop methods for treating the growing volumes of wastewater. The Station at the time was recognized as the leader in research on the purification of water supplies and treatment of sewage in this country.

Fuller’s achievements at Lawrence led him to being selected to take over the important filtration experiments for the Louisville Water Company in 1895. He studied the suitability of various processes of filtration that might prove adaptable in purifying the turbid waters such as the Ohio River. The report of these studies became a classic and opened up a new era of water purification practice. His work demon-

strated the ability of coagulation and rapid sand filtration to handle muddy and highly variable waters. It was the basis of American water purification practice. In particular, the studies revealed the major importance of effective coagulation and sedimentation prior to filtration.

At Louisville, he supervised a group of men who later made significant findings in the field of sanitation. (See photo at right.) These men included Robert Spurr Weston, Joseph W. Ellms, George A. Johnson and George A. Soper. Johnson, who was responsible for the first American installations for the chlorination of water (see the April 150th article on chlorination) was at the time an associate of Fuller, who was the consultant on the projects.

Following his research in Louisville, Fuller carried on similar filtration experiments in Cincinnati. His work proved the economy of rapid sand filtration over the then-used English slow sand methods.

In 1899, Fuller established a consulting engineering firm in New York. During his 34 years of practice, Fuller advised more than 150 cities, commissions and corporations on major water supply and sewerage improvements. He worked with, among others, Washington D.C.; New Orleans; St. Louis; Indianapolis; Kansas City; Chicago; New Haven, Conn.; Minneapolis and St. Paul, Minn.; the New Jersey Water Policy Commission; and the Hackensack Valley Sewerage Commission. For many of these facilities, his service included full control over all engineering work involved in the preparation of plans and contracts, as well as the construction. The earliest Imhoff tank sewage treatment plants in America (those in Chatham, N.J., and Atlanta, Ga.) were designed by Fuller and one of his partners, Rudolph Hering.

During World War I, Fuller was a member of a Central Committee in Washington having to do with the planning, engineering and sanitation of the various army corps. He also was the consulting engineer to the United States Public Health Services and the Construction Division of the U.S. Army.



Fuller and staff at Louisville, 1895-1896. Upper row (left to right): Robert Spurr Weston, assistant chief; William, janitor; George A. Johnson, bacteriologist; Stevens, assistant engineer. Center: George W. Fuller, chief. Lower row (left to right): Bockenhouse, assistant engineer; J.W. Ellms, assistant chemist; Parmalee, assistant engineer; Hill and Benton, assistant bacteriologists. (Water Works and Sewerage, July 1934, p.236)

In 1924 he was chairman of a board of 28 experts advising the Sanitary District of Chicago with the problems involved in disposing its sewage. This work eventually led to the reversing of the Chicago River. (This topic will be covered in next month's 150th Anniversary article.)

## Standardization

Fuller took a keen interest in activities aimed towards the standardization of practices. At an 1894 meeting of the American Public Health Association, Fuller suggested a cooperative effort toward the standardization of bacteriological testing so that results from different laboratories could be compared. The result came in an 1897 report that evolved into the Standard Methods text used today.

As chairman of the Council on Standardization of the AWWA, he was responsible for the successful publication of the Manual of Water Works Practice in 1925. He also was a dominant influence in the AWWA during

the time its constitution and bylaws were being revised. He also served as AWWA president.

In addition, Fuller gave freely of his time to other organizations. He was a member of the American Public Health Association (president), the Engineering Foundation (chair), the American Society of Civil Engineers (vice president), American Society of Mechanical Engineers, American Chemical Society and the Federation of Sewerage Works Associations, among others.

In July 1934, *Municipal Sanitation* Editor Abel Wolman wrote upon Fuller's death, "*Municipal Sanitation* records this last tribute to one of the important figures who have made this country safe to live in. His name will be among the first in public health achievements of this century."

### About the Author:

Bill Swichtenberg is the editorial director of *WEM*.



## LearnMore!

For more information related to this article, go to [www.waterinfocenter.com/lm.cfm/we050309](http://www.waterinfocenter.com/lm.cfm/we050309)