

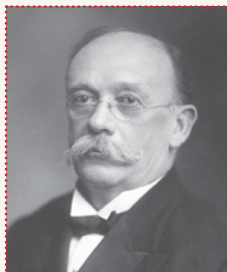


The Weston Legacy

A few months ago JPMorgan Chase & Co. notified ECS that they were planning to send

us the assets from the Weston Trust, which was an irrevocable trust from which we have been receiving earnings since 1928. It is unusual for a trustee to revoke a trust but they had a good reason, and this extraordinary experience motivated me to research the origins of the trust and write a “Classic” Pennington Corner about the donor and the impact his trust has had on ECS and electrochemistry.

The charter membership of ECS, then known as The American Electrochemical Society, consisted of 337 members from 27 different countries, of which 52 attended our first meeting in April 1902, held in Philadelphia, Pennsylvania. There were many influential scientists among the charter members, and several who have had a lasting influence on the Society, and



EDWARD G. WESTON was one of these extraordinary people. He was distinguished as an Honorary Member of ECS and in his era was recognized as an industrial titan and a rival of Thomas Edison in the early days of electricity generation and distribution. He is still recognized today for his development of the electrochemical cell, named the Weston Cell, and its voltage standard which became the international standard for EMF in 1911.

Weston’s contributions to ECS were almost as significant as his contributions to the science of electrochemistry. He established the Weston Trust in 1928 with a gift of \$25,000 to the Society, which was the first major gift for support of our educational programs in electrochemistry. The Weston Trust established the ECS Summer Fellowship program, which has provided scholarship funds to students in electrochemistry since 1930 (see the summer 2012 issue, page 106, for a list of recipients). The earnings from the Weston Trust enabled ECS to offer the summer fellowships and for nearly five decades it was the only dedicated source of funds available for scholarship or educational purposes.

Born in Oswestry, Shropshire, England, in 1850, and after receiving his medical diploma in 1870, Weston emigrated to the United States where he found a job in the electroplating industry. Realizing the need for a constant source of current, he developed an interest in power generation and invented several dynamos and generators. He eventually co-founded the Weston Electric Light Company in Newark, New Jersey and later won the contract to illuminate the Brooklyn Bridge. Weston was a founding member of the Board of Trustees of what later became the New Jersey Institute of Technology. Some of his inventions, instruments, and writings are maintained at the university’s library and the Weston Museum.

Weston invented and patented the saturated cadmium cell in 1893. The cathode in the cell is an amalgam of cadmium with mercury, the anode is of pure mercury, and the electrolyte is a solution of cadmium sulphate. The Weston Cell is a wet-chemical cell that produces a highly stable voltage suitable as a laboratory standard for calibration of voltmeters. The temperature coefficient was reduced by shifting to an unsaturated design, the predominant type today. When the Weston Cell became the International Standard for EMF in 1911, Weston waived his patent rights. He died in Montclair, New Jersey in 1936, having attained 309 United States patents during his life.

Edward Weston was clearly an accomplished and generous man with a desire to share his wealth and knowledge, and his wisdom about the importance of education in electrochemistry and his commitment to support it truly sets him apart. His \$25,000 investment in the trust in 1928 was an enormous contribution, approximately equivalent to a \$336,000 gift today, and it was an investment in a new program for a fledgling Society. He donated his funds to advance the future of education in electrochemistry and launched a program that has now touched 295 summer fellowship recipients over seven decades. It is hard to determine or quantify how the waiver of his Weston Cell patent rights enabled others to advance electrochemistry and other sciences, but it is probably safe to say that the waiver of a commercially-important patent right is something that would not happen today.



Weston’s gift to the Society has had a very significant influence on our role in supporting education in the field, but it may not be Weston’s most significant or “visible” contribution to ECS. Our founding fathers were obviously quite aware of the importance of the Weston Cell and adapted it to become part of the Society’s corporate seal which is depicted above. It has resided as the centerpiece of our seal since 1925, and remains an important symbol of electrochemistry and of ECS.

Roque J. Calvo
ECS Executive Director