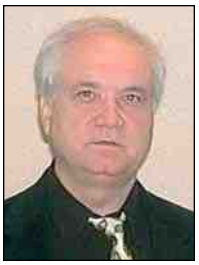

Advice & Counsel

Frank Altmayer, MSF, AESF Fellow
AESF Foundation Technical Education Director
Scientific Control Labs, Inc.
3158 Kolin Ave., Chicago, IL 60623-4889
E-mail: altmayer@sbcglobal.net

Industry Stalwarts: Oliver P. Watts and Edmond A. Anderson

Dear Readers,
2009 marks the 100th anniversary of AESF Foundation [formerly American Electroplaters & Surface Finishers Society (AESF) and previous to that American Electroplaters Society (AES) and previous to that the National Electroplaters Society (NES)].

In making a historical journey through the history of this magnificent organization, I have come across articles providing a rare glimpse into the backgrounds of some of the individuals in our industry that had a major impact on how things were done or why. I am making an attempt at covering some of these individuals in the next few articles, using text previously printed in past issues of *Plating* or *Plating & Surface Finishing* magazine. Readers are urged to submit names and information for inclusion in future articles. These individuals are covered in no particular intended order. In some cases, I am assuming, based on apparent age that the individuals are longer with us. Forgive me and let me know if you are still out there.

I continue this series with:

Dr. Oliver P. Watts

Dr. Watts was born in the old shipbuilding town of Thomaston, Maine, July 16, 1865. He graduated from Bowdoin College in 1889, and studied for a year at the newly opened Clark University in Worcester, Massachusetts - the first university in the United States for graduate students only. He then served as grammar school principal for two years, and taught physics, chemistry and mathematics at Franklin Academy in Malone, New York, and high school chemistry in Waltham, Massachusetts, for a total of eleven years.

When Waltham acquired a new high school building, a motor-generator set and a storage battery were installed so that experiments in electrolysis could be performed by students. Having this equipment, the next thing was to learn its effective use. Inquiry led to the conclusion that the best place to study electrochemistry was the University of Wisconsin where Louis Kahlenberg taught theoretical and C. F. Burgess applied electrochemistry. Dr. Watts was granted a year's leave of absence and departed for Madison - never to return.

He received his Ph.D. degree in 1905. At this time Prof. Burgess obtained a grant from the Carnegie Institution to study the properties of iron alloys. The first requisite was to obtain pure iron, and Dr. Watts was hired to carry out the electrolytic refining. Stoneware tanks were built, with connections for circulating and filtering the solution of ferrous sulfate. Wrought iron anodes and thin sheet iron cathodes were put in place, and electric current passed twenty-four hours a day. Since the deposited iron was highly brittle, it could be deposited on iron starting sheets, and when a convenient thickness of 3/8 to 1/2 inch was attained, the cathodes were removed, and the electrolytic iron was broken off by hammering.

When in the fall of 1906 there was a vacancy on the chemical engineering faculty, Dr. Watts became an instructor in electrochemistry. He later became professor and continued as head of the department until he passed the age limit of seventy in 1935.

The most important of his fifty-nine papers on plating and corrosion is probably "Rapid Nickel Plating," presented before the Electrochemical Society in 1915. In this he recommended substitution of the single sulfate of nickel instead of the double sulfate of nickel and ammonium previously used. The higher concentration of nickel thus made available in the nickel bath permitted a great increase in the speed of nickel plating and is the basis for all modern nickel baths - the Watts bath. Of about equal importance was his Rochelle salt copper cyanide bath, still widely used today.

Edmund Arnold Anderson

Born in Bridgeport, Connecticut, on July 27, 1899, Mr. Anderson received his early education in that city and in Middletown, Connecticut, graduating from Central High School in Bridgeport in 1917. He then went to Yale University, where he received his Ph.D. degree in Mining Engineering in 1920 and, after a stint with Handy & Harman in Bridgeport, his M.S. degree

in Metallurgy in 1923. From then on, he was connected with the Research Division, Technical Department, of the New Jersey Zinc Company (of Pa.) in Palmerton, Pennsylvania, where he held the position of Chief of the Metal Section.

Mr. Anderson was closely identified with the development of dimensionally stable, strong zinc-based die casting alloys which are now standard, the basic patents having issued in his name and that of W. M. Pierce. Similarly, he was responsible for the development of the copper-magnesium type of zinc rolling alloys. His studies of the corrosion behavior of plated zinc-based die castings soon led him to fight for the use of much heavier nickel coatings than those which had been employed up to that time. In this connection he became conscious of the variability of the protection provided by nickel coatings of equal thickness and showed how carbon dioxide remaining in nickel solutions after nickel carbonate treatment embrittled the nickel coating and how the orientation of the deposit influenced its ductility.

Other contributions to the development of high-quality deposits include demonstrations of the detrimental effect of overcleaning of the zinc-based die casting on the adhesion of copper-nickel-chromium deposits and, in turn, the reduction in protection which accompanies poor adhesion.

Mr. Anderson was very active in a number of technical societies: the American Electroplaters' Society, the American Society for Testing Materials (especially Committees B-3, B-6 and B-8), the American Institute Mining and Metallurgical Engineers (Chairman of the Institute of Metals Division and Director, 1947), the American Society for Metals, the American Foundrymen's Association, the National Association of Corrosion Engineers and the Engineers' Club of the Lehigh Valley.

Mr. Anderson was well known as a connoisseur of good music, good food, good liquor and good stories.

More next month. ***P&SF***

The 2010 Bright Design Challenge is GEARING UP!

For more information contact Cheryl Clark at cclark@nasf.org.

NASF is pleased to continue its relationship with the College for Creative Studies in Detroit to bring you the 2010 Bright Design Challenge. The "Challenge" will soon begin and we need your support. The future of surface finishing depends on the innovative ideas of our youth and it's the responsibility of those currently serving this industry to foster and nourish these ideas.

The 2010 Bright Design Challenge will focus on utilizing bright finishes and chromium on a performance motorcycle – the details are still being worked out – but you can be sure this will be an exciting challenge!

This event was created to help promote electroplated bright and alternative finishes in various industries and to educate future designers on the processes responsible for creating the look, feel, and performance of these finishes.

To view the 2009 Challenge entires, click here.

Please take a moment to review the photos as well!

To support this import industry event, we are offering several sponsorship opportunities.

BDC

A Bright Idea

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