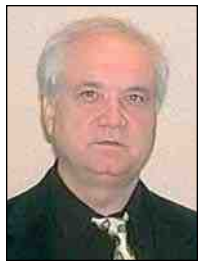

Frank Altmayer, MSF, AESF Fellow
AESF Foundation Technical Education Director
Scientific Control Labs, Inc.
3158 Kolin Ave., Chicago, IL 60623-4889
E-mail: altmayer@sbcglobal.net

Industry Stalwarts: George Jernstedt and Jesse Stareck

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 will make 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 will be covered in no particular intended order. In some cases, I am assuming, based on apparent age that the individuals are no longer with us. Forgive me and let me know if you are still out there.

I begin with:

George W. Jernstedt

Born on December 23, 1915 in Jersey City, New Jersey, he spent his early life in Bloomfield, New Jersey, where he received his preliminary schooling. He worked his way through Newark College of Engineering and obtained his B.S. degree in 1937.

A year earlier, Mr. Jernstedt had begun work for Westinghouse Electric Corporation on an industry cooperative plan, and on graduation he remained with this company as a Materials and Processes Engineer. However, he continued his studies, taking graduate work at the Polytechnic Institute of Brooklyn until 1941.

This was interrupted for one year, which he spent at Michigan State College on a Westinghouse Lamme Scholarship, given to him as the company's outstanding young engineer. His studies at Michigan State and his thesis on electrodeposition of beryllium oxide led to his M.S. degree.

In 1943, he was made Liaison Engineer on finishing and corrosion problems, working out of East Pittsburgh, Pennsylvania. As such, he assisted in setting up Naval Ordnance plants for the chromium plating of gun barrels and other plating operations. In 1946, he was made Manager of Electroplating Projects.

Mr. Jernstedt provided consulting work in the electrochemical and medical fields and, through his Chem-Medical Company, developed various innovative medical equipment and processes.

Among Mr. Jernstedt's developments were a predip for use in the phosphating of such metals as zinc, cadmium and aluminum; a bright ternary-alloy plating process marketed under the trademark Alballoy™ and a bright dip for aluminum, copper, Kovar and similar metals. All of them found commercial application, as did his Electroplating Computer.

Mr. Jernstedt, however, is probably best known for his development of plating with periodically reversed current, so-called PR plating, and organic-free baths for use with such plating, for example the WES-5 cyanide copper solution. These high-speed processes and baths opened up new avenues for the reduction of polishing prior to decorative plating and producing deposits of superior physical properties.

Mr. Jernstedt was a frequent speaker at AES meetings and presented numerous papers at its Conventions and Branch meetings.

Jesse E. Stareck

Next, we have Dr. Jesse E. Stareck. His many contributions to the industry are attested by numerous patents and publications.

Jesse Stareck was born in Petersburg, Michigan on March 17, 1905. While he was still a youngster, his parents moved to a farm in Kansas, and his early days were those of the typical farm boy. After graduation from Benton High School in 1923, he entered the University of Kansas at Lawrence. During his undergraduate years, he was elected to Sigma Xi, Tau Beta Pi and Sigma Tau, honorary research and engineering societies, and was also active in Alpha Chi Sigma, the professional chemistry fraternity. For relaxation he played the clarinet in the University Band.

Continued on page 31.

So, adding to my "Do's and Don'ts" list from August 2007:

Do's

- Use clean DI water in the pre-rinse and for the EN plating solution make up. The DI water system should have a carbon filter before the resin beds and the system should be sterilized periodically to prevent algae, molds and bacteria from contaminating plating solutions and rinses. These growing things can cause high stabilizer consumption, rough deposits and/or nodules and poor adhesion.
- Be precise with thickness measurements. Additional deposit thicknesses are costly.
- Be sure the thickness specification is adequate for the application.
- Keep racks stripped, clean and free from cracks in the rack coating that can entrap preparation solutions.
- Plan production to run all the items continuously then cool the tank soon after the last load.
- Filter the solution back into the plating tank when ready for production.
- Refer to the 2007 EN Conference papers.

Don'ts

- Keep the solution hot when not in use. There are heat exchangers that can heat the EN solution quickly and cool rapidly. Big savings in sodium hypophosphite consumption will result.
- Don't use city water or well water for make up or additions to the EN plating solution.
- Don't overheat the plating solution. Check and calibrate temperature controls. *P&SF*

Advice & Counsel

Continued from page 21.

Following graduation, he worked his way through the University of Kansas Graduate School as lecture assistant and assistant instructor in chemistry. He received his M.A. in 1930 and his Ph.D. in chemistry in 1934.

While working on the thesis for his doctorate, Dr. Stareck discovered the method of color plating, later to become known as Electrocolor. In 1933, he was awarded the Roy Cross Research Fellowship to further his studies of color plating. The following year, he became affiliated with the Kansas City Testing Laboratories and the Bar Rusto Plating Corporation in Kansas City, Missouri, where he undertook commercial development of the color-plating process.

In 1935, he joined the research staff of United Chromium, Incorporated. At its Waterbury, Connecticut laboratories, he continued his research activities on Electrocolor and shortly afterwards developed the related process of electrodepositing patterns, known as Patternplate. For these novel contributions in the field of coloring metals, the Franklin Institute awarded him the Edward Longstreth Medal in 1939.

In 1941, Dr. Stareck moved to the Detroit research laboratories of United Chromium as Director of Research. Some of the better known processes developed under his direction are Electrocolor, Patternplate, copper plating from pyrophosphate solutions, and high-speed chromium plating.

More next month. *P&SF*

Answers to I.Q. Quiz #453

1. Remove the bulk of the soil on the workpiece.
2. Remove surface oxides, microscopically etch the surface and leave the surface chemically active to assure an adherent plated deposit.
3. Dispersion, where dirt particles are broken up into smaller ones and dispersed by surfactants.
4. Fatty-acid containing oils (e.g., vegetable oils) found in lubricating operations are removed by converting them into soluble soaps.
5. Cavitation involves the formation and sudden collapse of tiny bubbles in the solution. The resulting force "chips away" at tenacious soils.

NASF Welcomes New Members

(as of August 14, 2009)

Corporate Member

Hawker Pacific Aerospace
Sun Valley, CA

Individual Members

Patrick J. Burgio, Jr.
Enthone Inc.
Milford, CT

Brian DeWald
Enthone Inc.
W. Bloomfield, CT

John Kolash
ASKO Processing Inc
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Curtus Rosenstiel
ASKO Processing, Inc.
Seattle, WA

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Shin Lu Industrial Company Ltd.
Changhua County, Taiwan

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ASKO Processing, Inc.
Seattle, WA