

James A. Martin's Patent Letter Award, part 1

(As published in *The Oak Ridger's Historically Speaking* column on January 8, 2008)

One of the many phone calls about *Historically Speaking* that I answered came from James A. Martin. He wanted to show me some photographs and share some information from his career at Y-12. He mentioned the "moon box" and said he had worked on that project.

That was enough to get me really interested and resulted in a visit to his home. We had a great visit and he showed me some photographs and other information that I found of interest. I photographed the historic material and reminisced with him about his time spent working at Y-12.

The interview went well and I felt there were sufficient details and interesting facts to make a good article. When I got home, I quickly compiled the notes and filed them away in my research folder of subjects to draw upon for future articles. However, the article did not get completed right away and was still in the queue when a most interesting development brought it to the forefront of my thinking. But first, let's see what was included in that first interview. Then we will explore the developments that led to a most unusual evening for James A. Martin and his family.

The first item he wanted me to see was his letter from Roger Hibbs with a one-dollar bill recognizing his patent. He was most proud of that award and we kept coming back to it during our conversation. I photographed the letter after removing it from its wooden frame. I noted he handled it with care and placed it gently on the desk. It obviously held a lot of meaning for him. I did not realize at the time just how important this award was and what role it was to play in future events surrounding James A. Martin.

We also enjoyed a discussion about unusual coins and dollar bills. He had a newspaper article about 1943 bronze pennies that was my introduction to those rare coins as I had thought all 1943 pennies were made of steel. The very few bronze ones were struck by mistake.

In 1996, one of these rare coins sold for \$82,500. We enjoyed talking about mistakes made when currency is printed or coins struck. He keeps his eye out for such abnormalities in currency as those anomalies intrigue him. He is proud of his knowledge of such "mistakes" and even has an example of one such unique specimen.

The "rock box" is what James Martin calls the specialized container used to bring back samples of rocks and other materials from the moon. The moon boxes were built at Y-12 in the late 1960's, for the National Aeronautics and Space Administration's Apollo program. There were several of them built. Right now there are example moon boxes on display at the American Museum of Science and Energy and the Y-12 History Exhibit Hall in the Y-12 New Hope Center.

This work is a good example of Y-12 being called upon by our nation to accomplish an industrial machining project that could not be done anywhere else. The moon boxes were machined from solid pieces of aluminum and were designed to protect the samples from any contamination until they could be opened at the Lunar Receiving Laboratory.

Y-12 is today a National Prototype Center which is formal recognition of the special role of unique manufacturing challenges given Y-12 by the government. This designation did not exist when the Moon Box was fabricated, however, Y-12 was already supporting our nation through unique and first-of-a-kind manufacturing accomplishments. James Martin was there when this feat was accomplished. He had a unique role in the task. He was the first person at Y-12 to work with Teflon as he used it to produce the gasket sealing the moon box.

Among his many memories of work at Y-12 documented in several photographs and reports are the specialized tools created for the astronauts use when picking up various samples from the moon. The unique Teflon sealing gasket is included in his collection of photographs. That seal served to protect the otherwise seamless aluminum box's internal atmosphere so that samples taken from the moon would reach the research laboratory without being exposed to the earth's atmosphere.

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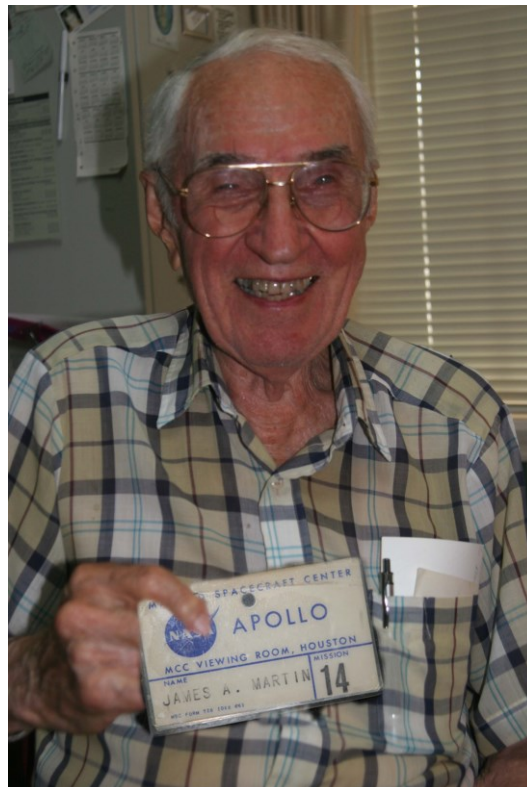
James Martin also was recognized by the contractor operating Y-12 at the time, Union Carbide Nuclear Division. He was presented with a special letter with a one-dollar bill attached as an award to commemorate his invention that was patented. There have been many of these "dollar" awards given over the years when individuals and teams invented patentable process improvements.

While it was not permissible to pay for patents obtained for government work, the framed letter with a one-dollar bill included was a method chosen to recognize the accomplishments. The people who were awarded these framed letters and one-dollar bills take great pride in them and rightly so. As in this situation, these inventions normally saved the government significant amounts of money.

In James Martin's case, a report created to document the award of the patent letter with its one-dollar bill, states, "A method was developed for supporting [certain] parts in a stress-free state during machining...to [obtain] a tolerance of 100 micro-inches waviness...compared to [the current method's] no better than 250 micro-inches waviness." This invention resulted in a calculated \$33,750,000 in cost avoidance and all parts produced using this new method during 1972 and 1973 meeting the required tolerance.

While James Martin was proud of his letter from Roger Hibbs, then president of Union Carbide Nuclear Division and while he enjoys talking about the "rock box," the most significant accomplishment I saw when I visited James Martin was his dedication to his invalid wife. The wording on a special rock given him by his daughter and placed in his flower garden says it all – "Sometimes all a person needs is a hand to hold and a heart to understand."

Next week we will follow up on James A. Martin by telling you the story of how he lost his patent letter with the one-dollar on it and how it came to be replaced. It is a heartwarming story.



James Martin proudly shows his badge to attend the launch of the Apollo 14 moon mission at the NASA Mission Command Center in Houston, TX where a Y-12 moon box was on board

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The garden rock from his daughter that expresses her appreciation for her dad's care for her mother