

## Liberty Pattern and Mold

By: Charles Davis

At Liberty Pattern & Mold, skilled craftsmen create patterns by combining traditional processes with the latest technological advances. The facility provides industrial archaeologists an excellent opportunity to view experienced workers engaging in techniques reminiscent of earlier generations of artisans, relying upon files and calipers to meet customers' specifications. Integrated with these processes are more modern, twentieth-century devices, including numerous lathes and milling machines. In addition, the shop contains a CNC 5-Axis digital router, among the latest innovations in pattern-making technology. The combination of these resources, in conjunction with the technical expertise of the proprietor, John Plaskett, and the experienced workforce, provides industrial archeologists an opportunity to not only view how patterns were traditionally made by hand, but also to observe how technology has changed the practice.

Liberty Pattern & Mold began operations in 1917, initially at a larger manufactory on Andrews Avenue in Youngstown. The company moved to their current facility in 1962, a structure they designed particularly for their pattern and mold business. The building still contains the infrastructure for a belt line shaft, and some of their older machinery remains capable of operating from belt driven power (although workers rarely utilize this practice). Throughout the twentieth century, the thriving industry of Youngstown provided a strong customer base for Liberty Pattern & Mold. After many of the city's steel mills closed, however, the company lost much of its clientele. The ownership responded to this drastic change by broadening their customer base, namely by attracting consumers from outside of the Youngstown area. The company currently contains a diverse clientele, with most of its orders coming from the tri-state area of Ohio, Pennsylvania, and West Virginia. The petrochemical industry in particular provides Liberty Pattern & Mold with a strong source of business.

Despite recent innovations, the pattern-making process has largely remained constant for hundreds of years. Liberty Pattern & Mold creates patterns needed for a variety of businesses, including foundries, tool and parts manufacturers, and architectural designers. Each of these diverse businesses has specific requirements for their patterns. When customers place an order with Liberty, they provide either a computer-generated file of their desired pattern, a blueprint of the product, an existing part, or simply an idea for a pattern. The artisans at Liberty create patterns based upon the customer's specifications, utilizing a variety of techniques. Primarily, the workers at Liberty use wood (mainly California Sugar Pines) to create patterns, but also employ Styrofoam, composites, and urethane. Based upon the particular specifications of the order, the craftsmen either utilize traditional methods of pattern construction (the use of a vertical milling machine, lathe, hand-filing, sanding, etc.) or rely upon the CNC digital router, a computer numerically-controlled machine that has replaced many of the operations in the pattern-making process. The company purchased the CNC machine, which uses a carbide cutter, in 2001. The machine saves time and money by reducing the amount of handwork needed in each order. Despite the technological improvements in the pattern-making process, Liberty's workforce still must rely upon their resourcefulness, years of experience, and skills to satisfy the diverse demands of their customers.