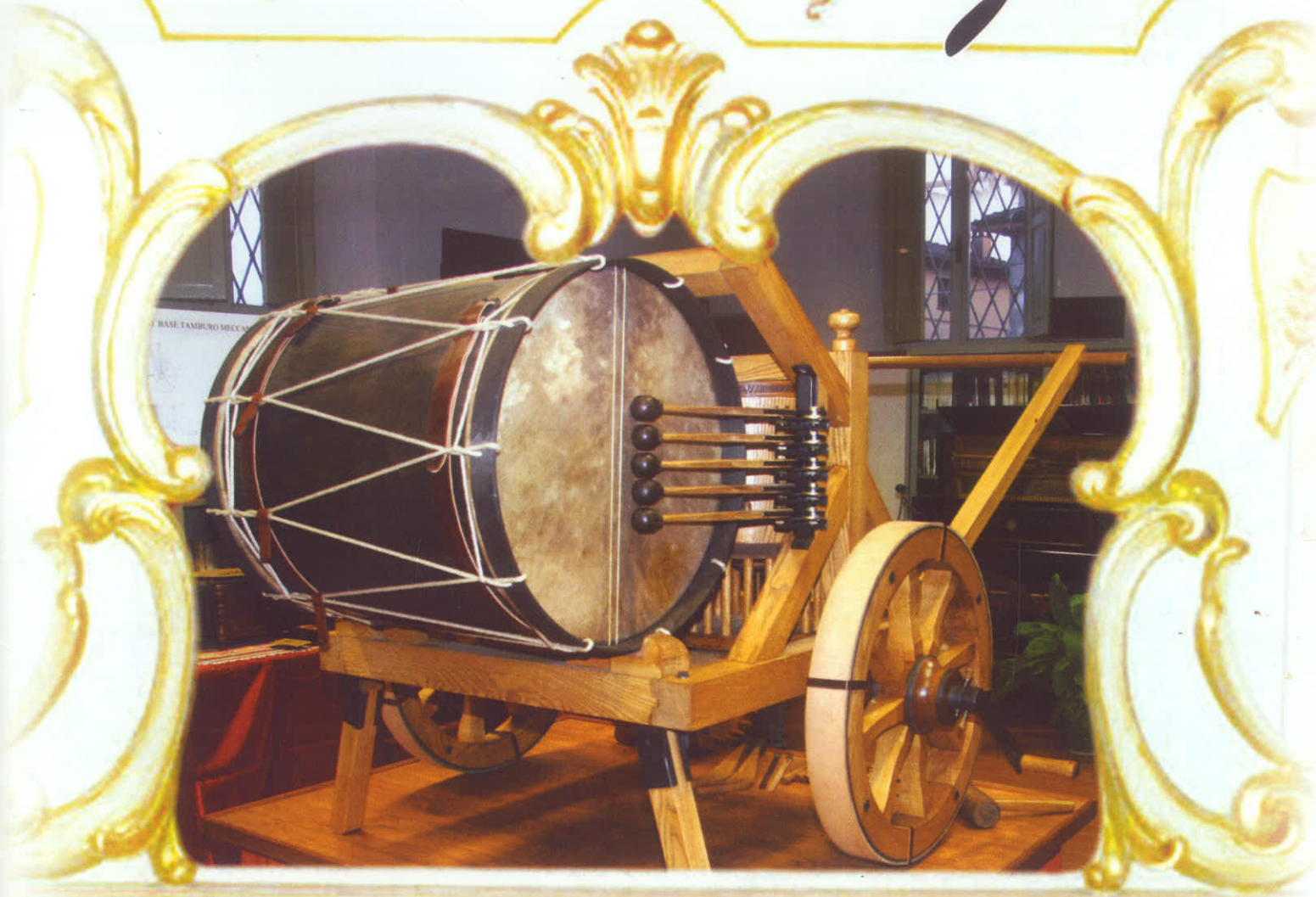


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Replicating the Wurlitzer 165 Façade

By Glenn Thomas and Robert Yorburg

Part One: Background (Glenn Thomas)

In the first part of this article, I recounted how the search for the elusive Wurlitzer 166 Band Organ led me to a near 100 year old Bruder, imported into the US, and factory converted by Wurlitzer to a duplex 165 band organ [see *Carousel Organ*, issue # 41, "My Search for the Elusive Wurlitzer 166 Band Organ"—ED]. The 166 moniker comes from the fact that it had a counter melody rank of brass trumpets, a key feature of the Wurlitzer 166. During the restoration, restorer Joe Hilferty and I discussed and agreed how we would make some adjustments to bring the instrumentation as close to a Wurlitzer 166 as possible. Other than lacking bass brass trombones, unaphone bells, and a few other minor accoutrements, the final instrumentation is close to a Wurlitzer 166 (Figure 1).

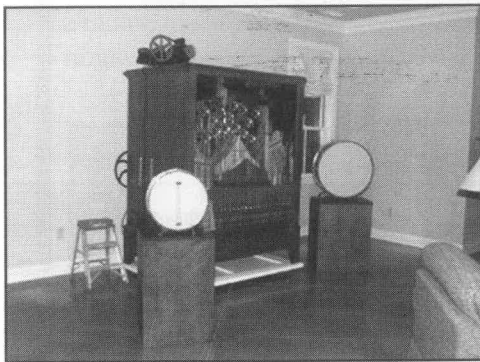


Figure 1. The completed Wurlitzer 166 band organs sans façade.

The organ lacked a façade when found. Whether it ever had one, and if so, what type is unknown. I decided the organ restoration must include the addition of a façade. Two decisions had to be made: what would the

façade be and who would be capable of carving and finishing it.

I was always enamored with the Wurlitzer 165 façade. From the time as a child I first saw the Lincoln Park, CA Ross Davis Wurlitzer 165, to eventually seeing them all in person and in photographs, I felt this was the façade to emulate. Since the organ was being restored with instrumentation close to a 166, and with brass trumpets facing forward, I considered using the Wurlitzer 166 catalog pictures as a basis from which to have a façade carved. I rejected this option as too expensive and too speculative. No 166 façade is known to survive from the few that were built, so any construction would have been derived from catalog pictures with poor detail.

The obvious choice was to emulate the Wurlitzer style 165 façade. It would be very true to the organ, plus I had contacts with original 165 owners where visits and

detailed measurements could be obtained, thereby creating a nearly exact copy. A minor issue would be the brass trumpets would be hidden behind the swell shutters, not the usual visual effect for most organs with brass trumpets proudly facing a forward display. Nevertheless, this would be a reasonable compromise that would showcase the organ in its stunning 165 replica façade.

Part Two: The Search for the Carver

After deciding on the 165 façade, the next decision was who could create this work of art? It had to be completely true to the original Wurlitzer creation in every detail. I could provide access to at least two original facades for details, but it would be up to the artisan to record what ever details were necessary. Secondly, I wanted the illustrations and the finished gold leafing and painting to be true to the many varieties of factory original Wurlitzer facades, but that would reflect my choice of illustrations and themes. I knew it would likely take a combination of two or three artisans to complete this work of art.

Where to find these artisans? I started by looking at a year's worth of *Carousel Organ* and *Carousel News and Trader*. Each has numerous display and classified ads placed by artisans highly qualified for this work. I also contacted some friends and received recommendations from others who had background in this field and could give me guidance. I ended up with a list of about six potential carvers. At this point, I was only looking at carvers. I knew the finishing would likely require a different search, but it could naturally follow once I selected a carver.

Some of these carvers had experience with carousel horses, panels, and boards, but not band organ facades. Only one had actually carved a façade, but all had closely related experience and were interested in hearing more.

I prepared a detailed Request for Proposal (RFP), outlining my vision, providing several pictures of actual 165 facades, and a Wurlitzer catalog picture which offered dimensions, weight, and other bits of information I deemed critical. I specified my time frame (ideally 18 months) and provided details on the assistance I could provide in locating facades to copy. I requested each potential artisan to consider the time and costs in making at least two visits to possible 165 sites. Lastly, I asked for ideas in providing the illustrations and finishing to complete the façade.

Part Three: The Proposals and Decision

My queries resulted in several dialogs and exchanges where questions were asked and answered and contingencies were voiced. Typical concerns were my suggested time frame, lack of access to 165 sites and potential inability to get the necessary detailed information even after access. In the end, I received four proposals and two declinations. Cost and my perception of the artisan's ability to deliver a near perfect replica were two prime considerations. I asked for and received pictures, illustrations, samples, and references of each artisan's work.

I was amazed at the bountiful beauty of illustrations received. The choice was difficult, but I chose Robert Yorburg of Yorktown Heights, NY. Bob had the added advantage of being a close two hour drive from me, and I was easily able to preview his work and his workshop. Besides working on carousel components, Bob owns band organs, had carved numerous arcade and midway figures, and his extensive background in design was a natural. Bob has a keen appreciation for band organ and carousel art, and in our discussions, it was clear he could indeed create a perfect replica.

Another strong plus was that Bob had worked with an illustrator and finisher on numerous projects. It was helpful to work with a carver who could assist in wrapping the entire project. Bob recommended Marguerite Chadwick-Juner of New York and Pamela Hessey of Kingman, AZ. Marguerite is an illustrator with much accomplished art and illustrations to her credit. Pam is a professional, operating Hawk's Eye Studio that specializes in restoring carousel components and similar art. Pam would do the glazing, gold leafing, painting, and finishing.

Part Four: The Illustration and Finishing Design

Although I had seen most of the known Wurlitzer 165 facades and artwork in various versions, my favorite was always Wurlitzer serial number 3629, the 1924 Ross Davis Lincoln Park organ. That's the organ I grew up with in Southern CA, admiring its façade which was a combination of original Wurlitzer art as delivered, and restored and tweaked by artist Nate Boleus who did work for the Davis family. Its façade art featured several attractive scenes in portions of side wings and top and bottom panels in a theme, without overwhelming the façade. The carving was finished with oils and gold leaf which emphasized and showcased the carving without being gaudy. The two drums were surrounded by mottled gold circles, emphasizing the drums.

Although the Lincoln Park organ façade had lights, as do two other surviving samples, I decided against them. They would make the carving more complex, but more importantly, would detract and minimize the illustrations.

For illustrations, I selected a series of scenes from outdoor photographs from trips my wife and I had taken to various national park and wilderness areas. These were given to illustrator Marguerite who composed them into several small watercolor samples superimposed on organ façade sections. From these samples, we tweaked the images, colors, and positions and settled on the final illustrations.

As for finishing, I provided Marguerite's illustrations to Pam. I had previously sent her photographs of other 165 facades along with my preferences. I had also given her ideas for a design. She provided several different artist renderings superimposed on the 165 facades. Each had a slightly different approach using different colors, tints, and combinations of leafs and different types of paints. After several conversations with Pam and Bob, and with their help, we decided on a final design.

Part Five: Carving Background (Robert Yorburg)

This all started innocently enough. I have performed magic professionally since the age of nine and began designing and building all of my effects very early in my career. As a third generation woodworker, I was proud of my abilities with wood. To further round out my skills, I apprenticed with a tool and die maker after school. I was hired by Burger King Corporation to do personal and television appearances performing magic as the Magic Burger King. Quite often Paul Torin was hired to bring one of his band organs to play. I admired the huge instruments and mentioned that I would like to build one. Paul said "you can't build one." Well that was all it took. I scoured book after book and every article I could find to see how.

I joined the MBSI and was impressed with the friendliness and the generosity of collectors who were willing to share information and allow me to photograph details. During my quest, I became fascinated with the "scrolly" stuff that was on the front of the band organs. My friend, a wood carver, said "oh that is acanthus carving." To which I replied "what?" I had to figure out what acanthus carving was and how to do it. Acanthus is a plant/weed that grows throughout Greece and Italy. It has appeared on buildings, decorative articles, frames and printed matter (American readers will even notice it on the dollar bill, which is now best used as an art piece rather than a monetary device).

I researched how to design and carve these scrolls, studied with an array of master carvers and began carving. Armed with my skills and a desire to put them to use, I bought a small 28-key Gavioli style book organ, ripped it apart, rebuilt it and carved a façade. My wife and I took it to many events and the indoor voiced organ became rather well known in New York.

Years later, the founder of the Big Apple Circus hired me to build a band organ for their upcoming production. I began to build my first organ from the ground up, including a façade that resembled the band stand above the ring. The organ traveled throughout the East Coast and was rolled into and out of the ring daily. Eventually, the organ only needed one service call to re-glue a pipe, and the wind chest was still immaculate. The automotive filter that I mounted on the blower kept all of the sawdust and mud completely out of the instrument. The organ is still used in every production to welcome guests to the circus.

I next built a 65-Key instrument and two 30-key instruments; all with thanks to Alan Pell (England). They all included custom cabinets and carvings. Currently I am expanding the 65-key to a 97-key fully chromatic organ.

While working on these projects, I noticed a posting on the MMD (Mechanical Music Digest) looking for a carver. I was looking to expand my carving hours to full time. I emailed Matthew Caulfield who in turn got me in touch with Glenn Thomas. Glenn is a passionate collector who

Finishing and Painting the Wurlitzer 165 Façade

By Pamela Hessey*

I started by creating a line drawing of the carvings. This was a bit intimidating, as the complexity of the elements showed no easy task. After researching current paint schemes, as well as historic paint information on existing façades, I created some sketches of suggested colors. Using Marguerite's watercolors, I made overlays with several different suggestions. I had to appropriately frame her illustrations while enhancing Bob's carvings.

Historically, the façades were finished with oil paint and bronzing powders. But as this was not a restored but a newly carved facade, Glenn and I agreed that paint and gold leaf were more appropriate. Once the color design was decided, I waited for the façade to arrive, my brushes poised for action.

As a carousel restoration artist, I am used to working on carousel horses. I arranged the facade, leaning the biggest pieces against walls and the smaller on various sawhorses; I realized the primer needed to be sanded. Gold leaf highlights every character, and there was way too much character here; I wanted smooth, sleek surfaces. The center section was big and heavy and barely movable by two people. We devised a dolly system to move it out of my dust-free painting area and into a woodworking area. I sanded down the surfaces I was to paint to 400 grit, and then re-primed all my surfaces with an oil-based primer, color-matched to the undercoat. I then started gold-leafing areas with 23 karat gold. For weeks, I left my studio with bits of gold leaf swirling in my wake. After putting on over 1200 sheets of gold leaf, I sealed all the leafing with a gloss varnish.

Now it was time to paint. I mixed large piles of artist's tube oils, matching them to the sketch. Every color was applied by brush, and blended wet-into-wet by hand. Some blends had more than six colors in them. After completing each blend, I stepped back to see if it was reading well. The façade seemed to be growing larger as I worked! Now to add the Wurlitzer logo. I examined several different typefaces Wurlitzer had used, and opted to go for the most historic. I scanned and enlarged the photograph from the original 165 advertising brochure. I then scanned type from a different brochure that most closely matched the original typeface. Using computer technology, I arranged the letters in an arc, and tilted each of them so they visually matched the original brochure. I traced them onto the façade, leafed them, and then outlined each in black to match the original logo. Now I could varnish the entire painted surface to protect it.

I had been painting each separate piece: wings, crown, swell shutters, and the center section. Now it was time to fit them together. We moved them into place, and were delighted with the effect. I called Glenn, and let him know it was time for his façade to come home!

*Pamela Hessey is a professional carousel animal and art restorer. She is the proprietor of Hawk's Eye Studio in Kingman, AZ. Her work may be seen and she may be contacted at www.hawkseyestudio.com.

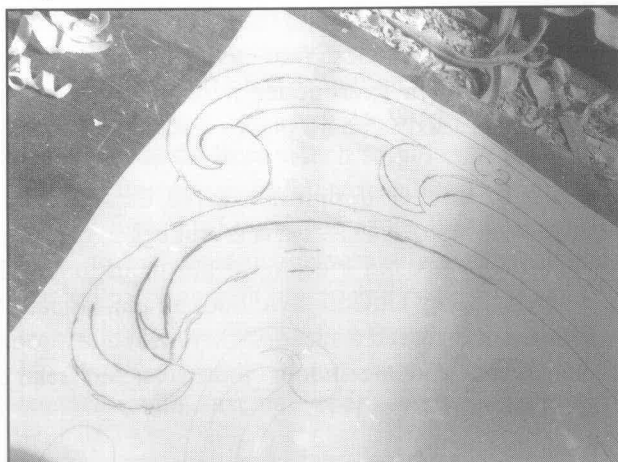


Figure 2. A sampling of the tracings needed.

shares my interest in doing things the best they can be. After meeting, comparing notes and projects, Glenn gave me the green light to get started.

As it turns out, there are quite a number of Wurlitzer 165 organs lurking about. Glenn knew just where to find them. Off I went to photograph, measure, and discuss details with two collectors along the East coast. The home run was when one sent his 165 out for painting. A quick trip with pencil and camera and I finally got the tracings and dimensions I needed (**Figure 2**). The organ was disassembled and I was able to translate the numbers and notes into proper patterns for all of the parts and pieces.

Part Six: The Carving

Now I needed wood. Being a bit finicky by nature, I wanted the best I could get. Tight growth rings take the best detail so that implied Northern grown. Most wood is available kiln dried, which I find to be brittle thereby not giving the crisp detail that I desire (**Figure 3**). A trip to a friend who mills basswood from Northern Minnesota and Wisconsin was in order. I told him what I wanted, which they only cut in the winter when the sap is not running. I arrived and loaded up a truck. I like my stock to dry for at least a year, then plane and dimension it. Working with this type of wood yields crisp detail with nice chips.

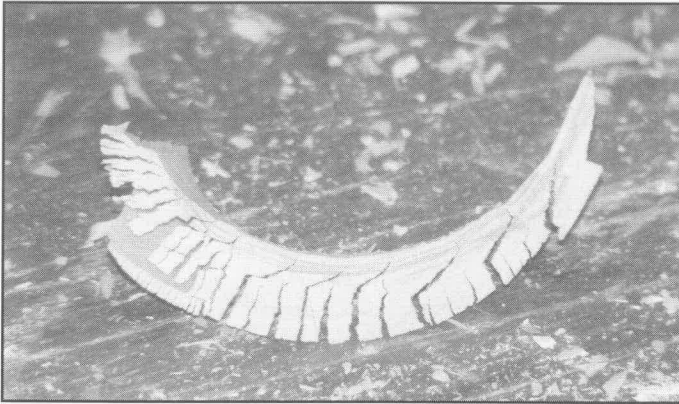


Figure 3. An example of brittle wood not giving crisp detail.



Figure 4. Glued-up pieces of basswood with patterns applied.

I found some terrific furniture grade maple plywood with no voids or patches one inch thick for the façade panels. The panels were laid out and rough cut slightly over size. The carved components were glued, traced and cut out on a band saw to the exact dimensions. Each piece had to be carved so that it mimicked the original Wurlitzer carvings.

It turns out that there are no two Wurlitzer 165 organs alike. I found the façade shapes to alter slightly, the placement of the carvings and the style of carving to differ dramatically. I suppose that the original customer had some say regarding the details. I also suspect that during the years that Wurlitzer made these instruments, the personnel in the factory changed.

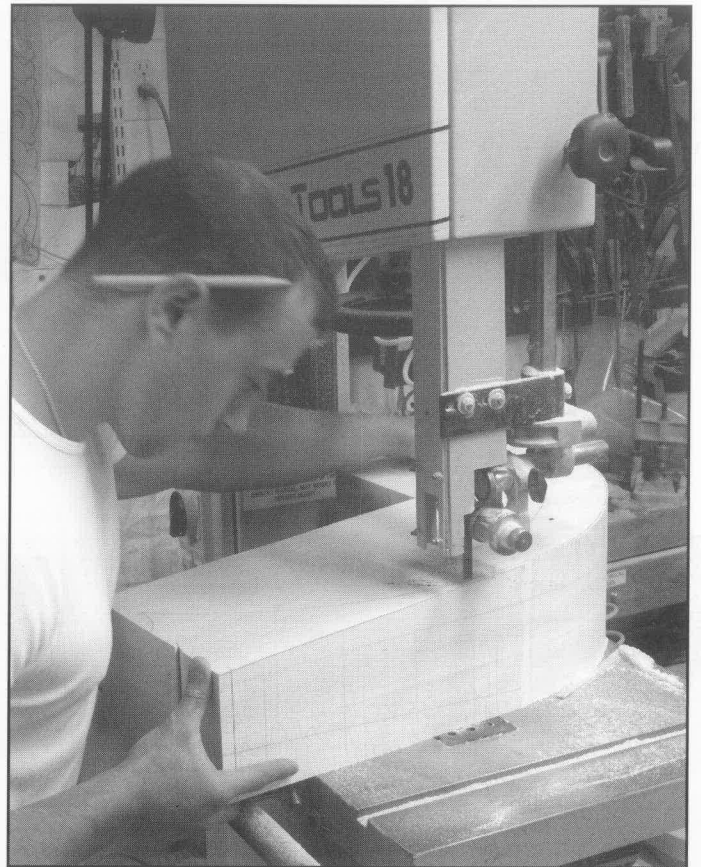


Figure 5. Using the band saw to rough cut the patterned wood.

Once the best features were chosen, I proceeded to create a full size set of drawings of the case work and panels as well as patterns for the carvings. Since the carvings were so thick, some of the patterns had to be in two parts showing detail on different levels.

The next step was to glue pieces of basswood the appropriate size to be band sawn, so that the patterns could be transferred onto the wood (**Figure 4**). Then I had to band saw the patterns (**Figure 5**). Typically, I would move straight to the carving and be done with the project. Yet, Glenn was kind enough to find two more people who

needed Wurlitzer 165 carvings. This implied that the best approach was to carve a complete set of carvings to have as models.

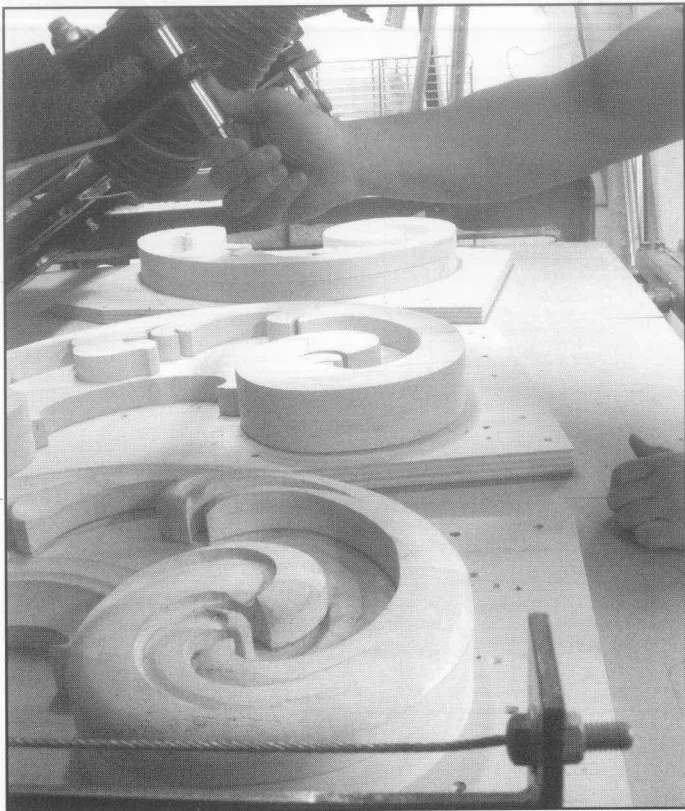


Figure 6. Using the duplicating machine to rough-carve the decorative scrolls.

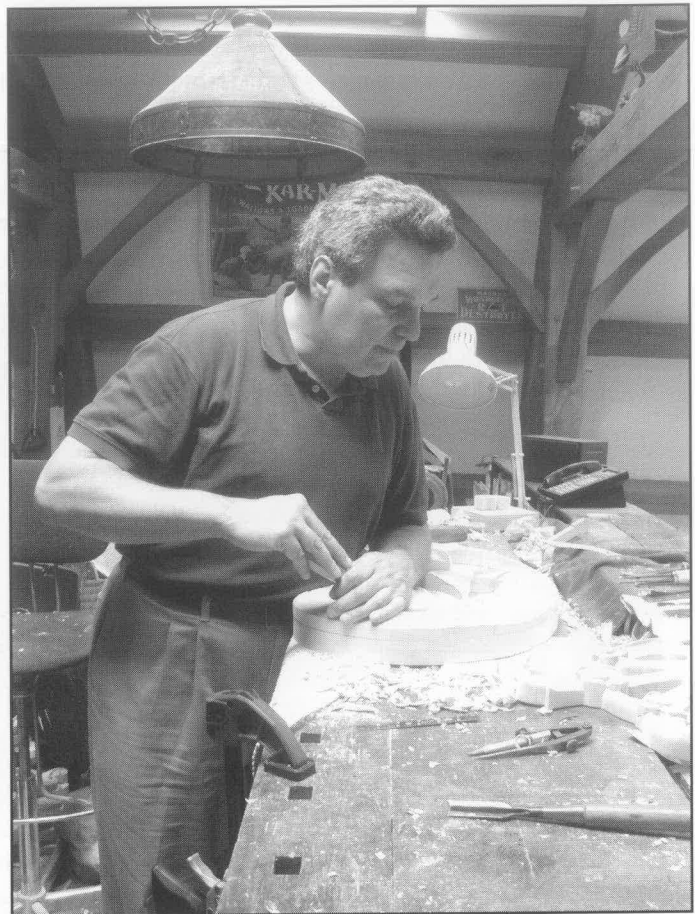


Figure 8. Hand carving by the author adds the details and smoothness to the carved components.

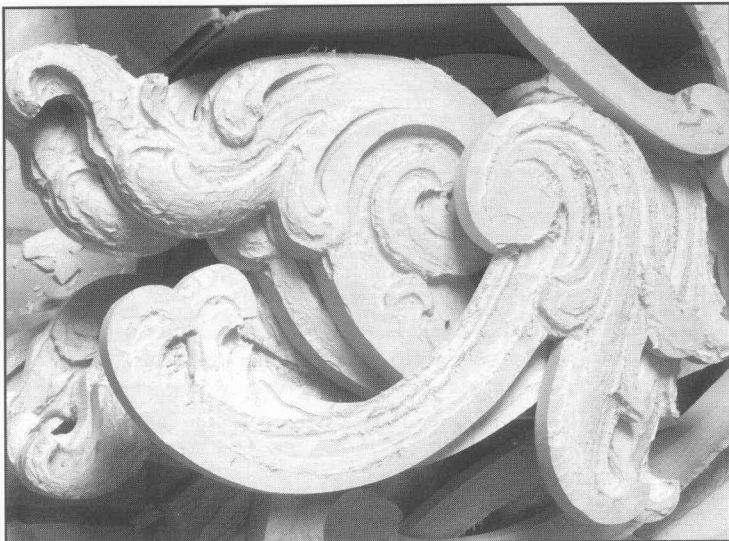


Figure 7. The end result of rough-cutting a band saw blank as seen in figure 6.



Figure 9. The finished carvings now applied to a façade section.

I have a duplicating machine that will carve a right and left hand carving from a single original master. I set up the right and left band sawn pieces next to the original master (Figure 6). I had to rough out three sets of carvings for the set of three facades (Figure 7). The rough-outs were detailed and finished by hand (Figure 8).

Illustrating the 165 Façade

By Marguerite Chadwick-Juner*

I first had to familiarize myself with similar band organs, so I looked at photos of Wurlitzer organs of the same style and vintage so that I could see what needed to be painted.

The base color needed to be oil based paint, so the scenes would be in artist's oils. I made detailed watercolor sketches from Glenn's photography of his travels in the Colorado Rockies. I modified the scenery to fit the specific parts of the façade and added animals to enliven the piece.

I received the left and right wing panels—much larger than expected! I realized that none of the photos of the other organs had people in them, therefore any reference for scale! I tackled the "blue fog" at the top of these two panels by thinning my oil colors and spraying them on with an airbrush. I then scaled up my drawings onto tracing paper, refined, and adjusted them to fit the actual pieces, and transferred them to the painting surface. I was mindful to keep my painting as smooth and thin as possible, as this was essentially a piece of furniture and a thick application of paint would not be appropriate. That is virtually the only difference between painting a canvas and the façade.

The top panel and main or center panels arrived some months later. My size surprise escalated! They were placed on the dining table, maneuvered with the top edge against one wall, leaving me just enough room to move around and work. Another challenge to the space was that I had to bring the side panels upstairs to match the coloring. Although there is artistic license taken with the flow from one panel to the next, they still had to work together, requiring crowding into one room!

*Marguerite Chadwick-Juner, with over 30 years of experience in fine and graphic arts, has illustrated circus sideshow backdrops, carnival games, and many other carved pieces. Her work can be seen and she may be contacted at www.margueritechadwickjuner.com.



Figure 10. The top panel complete with paintings by Marguerite Chadwick-Juner.

The finished carvings all had to be glued onto the façade sections and blended so that the flow looked perfect (**Figure 9**). After each section was completed, they had to be assembled to create the entire façade. All of the sections were glued and tweaked, so that everything matched and aligned perfectly.

The process took longer than I anticipated, but I was pleased with the outcome. Each carved piece had to be meticulously fitted together. This was critical so that the entire face and side and top panels fit flawlessly. If you look carefully at the top section, the carvings drip down onto the center section. If anything was off either in alignment, thickness or flow, the mistake would jump out especially after being gold leafed. Several fittings were necessary prior to gluing the carvings to the substrate.

The assembled panels were sanded down with 220 grit and everything was checked for perfect fit before priming. The surface was gold leafed and oil painted scenes were painted on the flat portions of the panels. I have seen paintings done on surfaces that were not properly prepared and the texture is very distracting. Each layer of primer had to be carefully sanded without touching the carvings beneath. Eventually, three to five coats later with a glass smooth finish, the sections were completed.

The sections, center, wings, and top panel, were painted by the scenery painter, Marguerite Chadwick-Juner (**Figure 10**). Then it was off to Pam Hessey who performed the leafing, glazing and created the color scheme to harmonize with the painted scenes. The finished piece looks amazing in that it was truly a collaborative effort.

Part Seven: Final Assembly (Glenn Thomas)

After Pam completed the finishing, the façade went briefly back to organ restorer Joe Hilferty for installation of the drums and other percussion on to the wings, and to make several connecting mounts and supports that were necessary for final assembly. Additionally, a platform extension for the façade had to be built, and casters integrated into the platform.

Attaching and assembling the façade to the organ was not a simple process. Besides the sheer size and weight, there were swell shutters with an open-close operational pneumatic to install. Drums and other percussion with their mechanisms needed to be fitted, adjusted, and tubed to the organ. Additionally, the façade needed to be fitted in a way for easy removal to allow tuning and other maintenance access.

Before the façade was installed, the organ was fitted with a wood block mounted on the organ cabinet, playing on the castanet perforation. This was such an enjoyable sound, after the castanets were installed in the façade, Joe built a shifter so both the castanets and block would continue to operate on the castanet perforation, multiplexed by the bells register. The resulting effect is quite sensational!

It is now possible to relax in front of the organ, listening and watching a grand show that sounds at least the equal of any restored 165 organ, and perhaps the only near 166 sound heard in modern times!

The completed façade, and organ, is illustrated in the **centerfold** section of this issue (pages 20-21).

Glenn Thomas is a lifelong mechanical music hobbyist. He is a member of COAA, AMICA, and MBSI. His collection consists of reproducing grand pianos, coin operated orchestrions, and of course this band organ. His collection may be seen at www.nickelodeonhouse.net. He lives near Princeton, NJ and may be contacted at wurlitzer165@comcast.net

Bob Yorburg is an artist, carver, restorer, magician, and teacher. His published work on carving is *Acanthus Carving and Design*, available at www.acanthuscarving.com. He is presently writing another book, *Finishing Techniques for Carving*. Information on his carving may be found at www.bobyorburg.com. He lives in Yorktown Heights, NY and may be contacted at magicarve@gmail.com.