

# Carving your own niche...

## *Solder as art*

by Amy Custis

In the 70's I had a part time job at an antique auction house. One of my functions was to hold the various pieces up in front of the bidders during the auction. Often times I would hold a Tiffany lamp right under a bare light bulb for ten minutes or so while the bidding war was on. During this time, I would stare at the lamp, examine it, and try to figure out what made it so valuable. The awesome beauty of this work stayed with me always, and when I had the opportunity to take stained glass lessons years later, I jumped at the chance. To this day, my favorite items are the lamps. This is where my passion lies.

In recent years I have been exposed to many stained glass artists' works, both old masters and contemporaries, and have developed a strong yearning to create my own style of glass art. It was after one particularly inspirational seminar that I felt that if I had to make one more kitchen cabinet door without doing something from my own heart, I would surely melt away into oblivion and disappear. I HAD to do something new and exciting!

Some artists carve in glass or stone, some manipulate

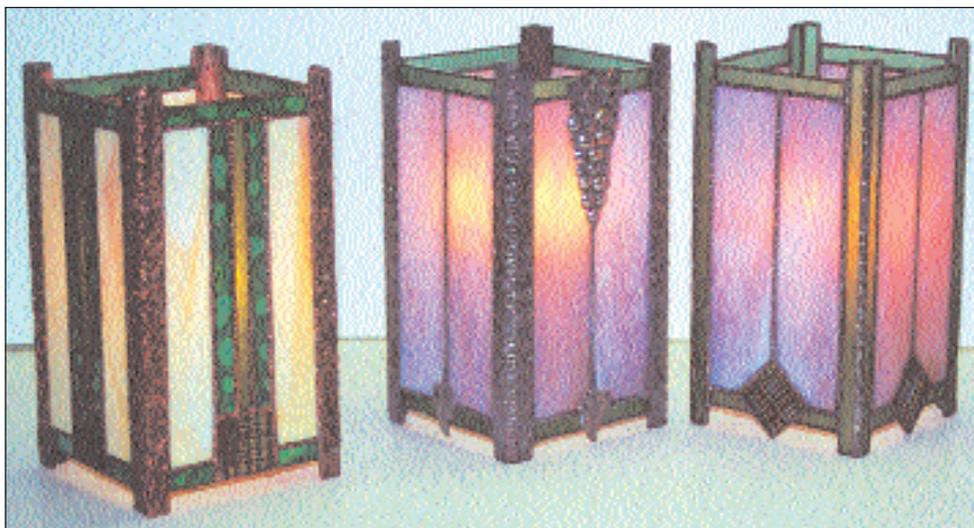
metal. Somehow, I wanted to do both. In doing typical decorative soldering, I always felt that there could be more to it. Being a person with an active left and right side of my brain, the artist in me decided to take that desire literally, and just add more to it! By applying more solder than ever before, I now had a medium to carve into, thus creating those wonderful deep textures which would become the framework for the art glass.

I chose to do lanterns, as they stand alone without a base of metal or other material that may detract from my handling of the subject. I begin by selecting gorgeous art glass, which would be complimented by the warm light of a low wattage bulb, but would still let the soldering technique become the main focus of the piece. I didn't want the solder to look like solder, I



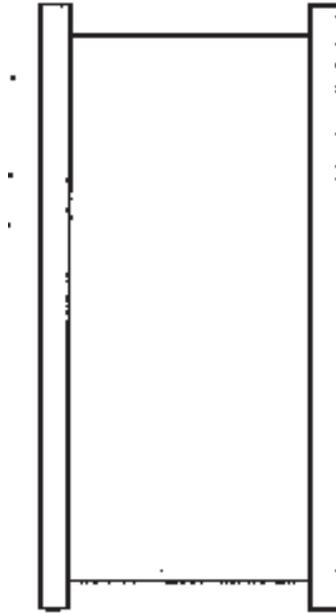
wanted it to look like a heavy metal. Mostly, I wanted to make a strong statement that this work is about texture. My hopes for this process were realized when the first lantern that I sold was to a blind woman. I thought, "She gets it!" That one sale was my inspiration and encouragement to continue along and carve my niche. So when you look at the lanterns, (which, unfortunately, Rosemary cannot do), please see the light, realize what it really is all about.

*Continued on page 20*



*Group of lantern styles. Note in the first and third lanterns we used "Job" squares for enhancement.*

## BASIC LANTERN LAYOUT DESIGN:



**Corner strips:** Clear Float Glass, 1/8" thick, 1/2" wide x 10" high, cut eight. These strips will be completely encased in copper foil and will constitute the framework for the sculptural solder.

**Center Panels:** Art Glass, in any configuration; total outer dimension: 4" x 9", cut four pieces.

This is a basic design, which can be adapted to any decorating style or color scheme, limited only by the imagination of the artist. Some suggested ideas:

- Feature a bevel, jewel, or "Job Square" in your design. (*see photo # 13*)
- Cut strips of glass in varied widths
- Add brass castings, foil overlays, or sheet copper components, i.e., leaves, insects, vines, etc.
- Finally use that gorgeous piece of Youghioghenny, or other art glass, that you have been saving for ages for a very special project. Let its beauty shine and draw attention to your solder carving.

## TOOL BOX

### TOOLS:

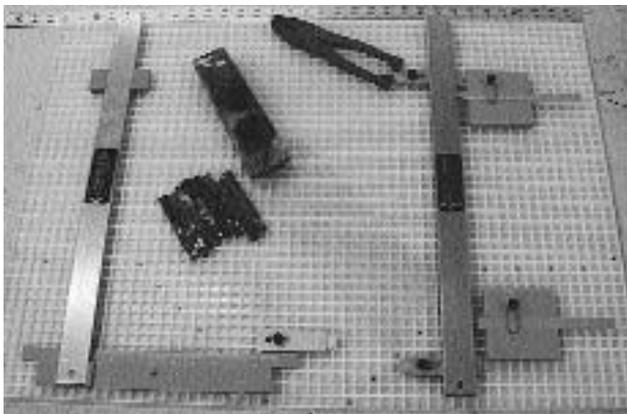
- Design tools such as: pencil, paper, ruler, triangle, eraser (!), etc.
- Morton Glass Shop & Maxi Surface
- Glass cutter, pliers, grinder
- Soldering iron and rheostat for temperature control
- Lay-out jigs, pins, sheetrock or homosote project board
- Two pieces of wood nailed together so that corner forms a 90 degree angle (*see photo # 8A*)

### SUPPLIES:

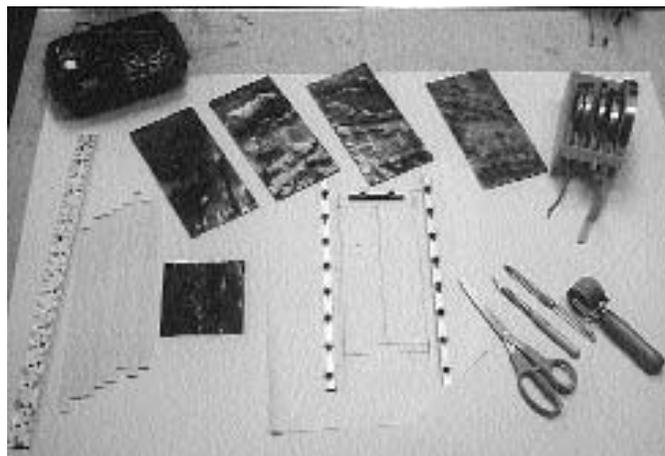
- Glass - see lantern lay-out
- Candelabra socket & bulb
- 63 - 37 solder
- Disposable gloves
- Carpenter's square
- 7/32" foil tape with appropriate colored back
- Threaded rod, 1" long, and nut to fit rod
- 4-way spider
- Cord with line switch
- Flux
- Glass marker
- 1/2" copper foil tape

Optional: Bevels, jewels, "Job squares", etc.

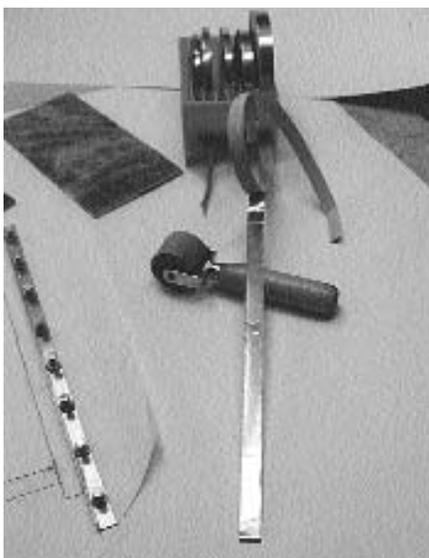
## INSTRUCTIONS: LANTERN ASSEMBLY -



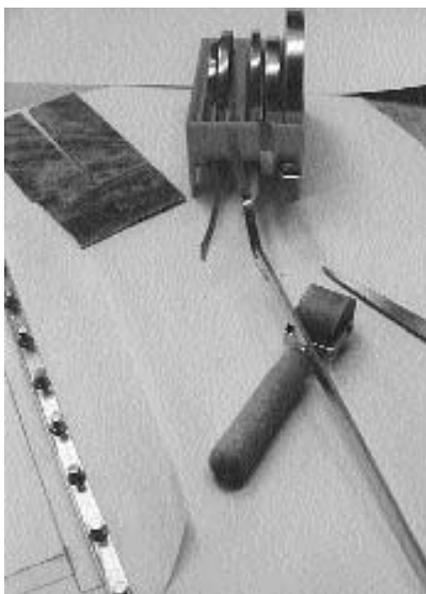
(1) Using the Morton Glass shop and Maxi Surface, accurately cut all of your glass according to your design, matching the measurements in the Layout box. Check all glass strips and lightly grind edges if needed.



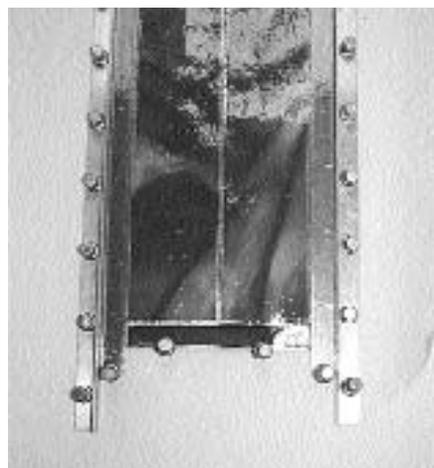
(2) Place your design/pattern onto your work surface. Using a carpenter's square, set up a jig to ensure that all four lantern panels will be exactly the same size. Check the fit of your glass in the jig and adjust if necessary.



(3) Foil your art glass pieces with appropriately colored 7/32" foil. Foil all eight clear corner strips as follows: First: cover both front AND back with 1/2" copper foil tape, and burnish.

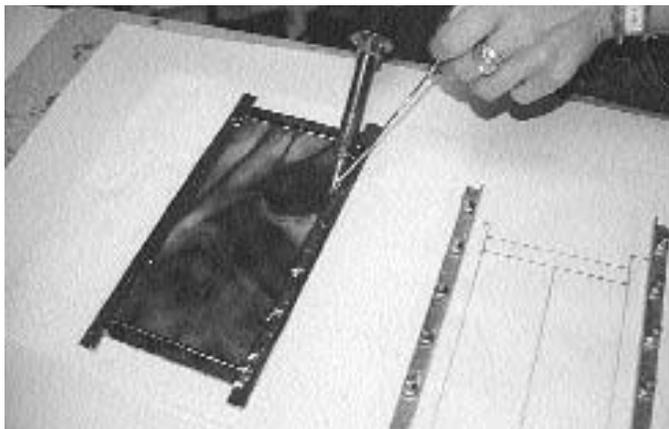


(4) Next: foil edges of these strips with 7/32" foil (any color is fine) and burnish.



(5) Assemble your foiled components into the jig, pin all glass into place, and solder the top (front side) ONLY.

**NOTE:** Whenever I am constructing any panel lamp or lantern, I do not solder the backs of the panels prior to assembly, as the panels will best lay flat without a solder bead on the backs, enabling accurate assembly.

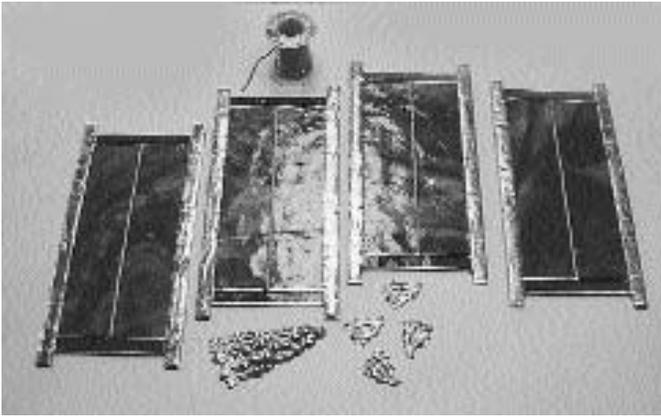


(6) Remove the panel from your jig, apply more flux to the foil-covered corner strips, and apply a heavy layer of solder on the top sides of the 2 outer strips (only). Wipe off excess flux, and repeat this step for remaining three panels.

Gently wash all four panels with warm water and neutralizer. Rinse well, and dry.

## SOLDER CARVING

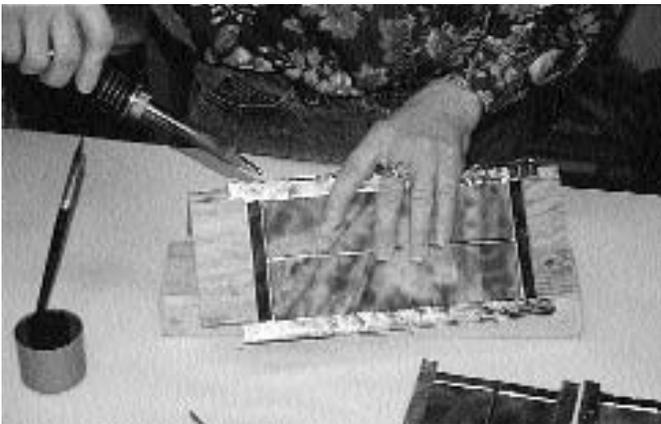
Continued from page 21



(7) In this design example I will be attaching brass castings. If you plan attachments for your lantern, prepare them now. For the brass castings, I have tinned them, front & back, and they have been washed and dried.

**NOTE:** "Tinning" is the term for the process of completely covering an item with a light coat of solder.

To tin, use an iron hotter than your usual setting, lots of flux, and very little solder. Let the heat spread a thin coat of solder over the whole piece. Clean and dry your tinned castings.



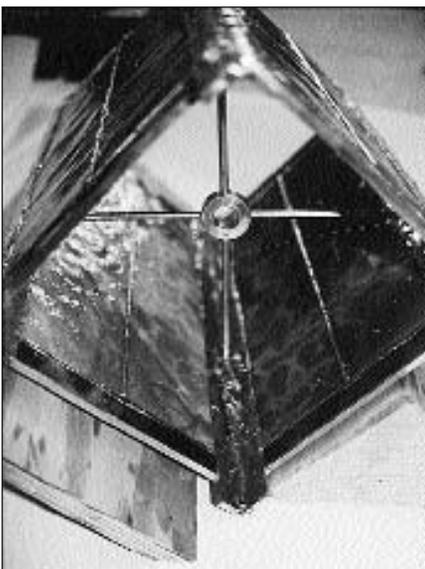
(8A) Using two small boards nailed together at a 90 degree angle, solder panels 1 & 2 together.



(8B) Once tacked, apply a heavy bead of solder to the outside corner seam. Repeat this step for panels 3 & 4.

**NOTE:** I like 63 - 37 solder for lamp/lantern construction as well as all solder carving projects because it has a quicker set up time without sacrificing good flow during application.

Using wood blocks to hold your two corner units together, tack solder your lantern on the inside corner seams, checking often that it is still square and true. Now, solder all inside seams.



Lay the lantern on its side and make a mark on each inside corner 3" from the bottom of lantern. If you have built to the suggested layout measurements, a standard 4-way spider should fit easily into the lantern. If necessary, cut or file the spider to fit. Insert spider to the 3" marks and solder into place. Use a lot of solder in corner seams just above and below the spider to ensure strength for your spider installation and general stability in your lantern construction.

Complete the "finish" beading of your solder seams (except for the corner strips) making sure to bead along the top and bottom edges of lantern. Check the lantern for "rocking" and add/subtract solder at bottom corners to adjust.

## INSTRUCTIONS - SOLDER CARVING:

### **Step One: Bake a Cake!**

Go to the market and buy some pre-mixed cake frosting. Frost a small cake and using a butter knife, create designs in the frosting. This really IS a great way to figure out what look you want to achieve with your carved solder and more importantly what steps you have to take to get the look that you want. Not to mention, unlike solder carving, you get to eat your mistakes!

The most important rule about solder carving is this:

**THROW OUT ALL THE RULES!**



For this sample lantern I wanted the solder carving to tie in with a grape theme so I experimented with a trellis look. Using a hot iron, I first carved angled "hatch" marks along the corner strips. Next, angling the

If you're like me, this aspect is very appealing.

Unlike those decorative soldering techniques in which you add solder to form designs such as pearls, in solder carving you are literally carving into a large foundation of solder that has already been applied. The more solder on the piece already, the deeper the carving so...

### **Broken Rule #1: USE LOTS OF SOLDER.**

The lantern in this example required 2 ½ pounds of solder! If you plan to make a lot of these,

*iron in the opposite direction, I made more hatch marks crossing the first ones forming an "X" pattern. Once all corners were done this way I held the lantern at an angle with the corner seams up, and made small horizontal marks on the very corner edges. This completed the trellis design. (see photo at right)*

*Use your imagination and many different pattern possibilities will emerge. This trellis pattern could easily become the weave on a foil-covered piece of glass in a panel depicting a basket of flowers, for instance.*

### **LAST STEP: PATINA**

Solder carving is GREATLY enhanced by patina - especially if you take the time to vary the shades of your patina.

For this lantern, I used black patina cut with a teaspoon of white vinegar. *Note:* This is one of the many valuable "secrets" of patination that I learned from Joe Porcelli. If you ever have an opportunity to take his course, I highly recommend that you do so. I applied this solution with cotton balls, (see photo right) then rinsed with water. After it was dry I used fine steel wool dipped in white vinegar to further remove patina from the raised areas in the carved design. This is the time to play around with

technique to see what you can invent. When you like what you see - rinse, dry, and finally, wax your lantern. Now all that is left to do is to install the electrical components and let it shine.

In solder carving, the potential is endless and the sky is the limit. This article has only begun to touch the surface of the myriad possibilities of solder as a medium. ❖

*Amy Custis owns and operates Trinity Stained Glass & Windmill Studios in Warwick, Rhode Island. She has been doing stained glass for 11 years. In addition to her retail store, commission work and teaching, she does regional art fairs and festivals throughout New England and was a scheduled speaker at the Chicago AGSA Show.*

maybe you should buy stock in a solder company!

### **Broken Rule #2: USE LOTS OF FLUX.**

I tell my students: FLUX equals FLOW. When carving, it is important not to break the rhythm that you have established; good flow is absolutely essential.

### **Broken Rule #3: SOLDER SHOULDN'T LOOK SMOOTH.**

If you've ever been running a solder bead which was supposed to look perfectly smooth but didn't, this technique is for you.

