

To begin the second course the form is bent around the sinusoidal stake in a process similar to the first step. When the axial curve is tightened the generator curve opens, so it will appear that your nicely closed form has opened. Well, it has opened up, but don't be discouraged! If the limits of the first curve have been reached, it might be necessary to move to a tighter curve on the stake. Except in the case of exceptional hammering, it usually takes two courses of hammering on the first portion of the stake before this becomes necessary. You can continue to work on the steel stake or, as shown, you can switch to the plastic stake. Experiment with both to determine which you prefer.

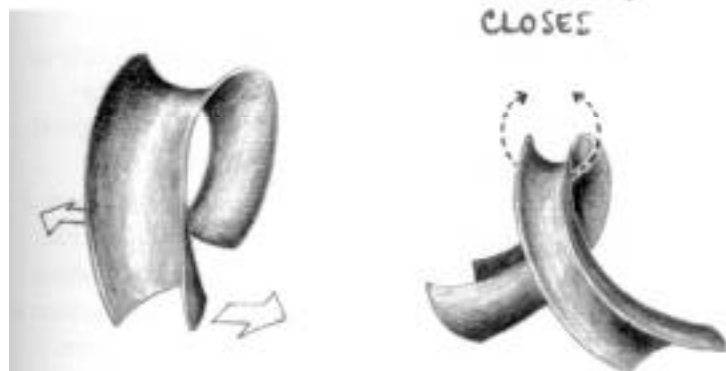


This process will continue until the desired form has been obtained. Strike with a cross peen on the inside of the trough as it develops, always holding the ends of the form together to minimize their natural tendency to pull outward. Position the workpiece on the stake so there is a hollow or void beneath the metal where you intend to hit it. Remember that the sinusoidal stake can be turned over to reveal a series of curves with different radii.

The anticlased strip has several interesting characteristics. While it has great structural strength, it nonetheless moves freely about its axis and can be easily twisted in both directions. By "screwing" or "unscrewing" the form, the axial curve will open out and the generator will close.

Continue alternate working of both edges, moving from the outside toward the center line.

GENERATOR
CLOSES



The orientation of the ends of the strip will have a lot to do with the resulting form.



T-folds produce rapid dimensional changes when worked and unfolded. They may be made in various cross sections and with several fold edges. If using more than two fold edges it may be useful to pleat the metal to obtain multiple fold edges. T-folds may be placed in the vise at angles to obtain wedge T-folds and variations on them. The table shape and form can be controlled by using "leg" or "pillow" inserts as illustrated below. Changing the profile of the vise jaws or even changing the position of the fold in the vise while confirming the pillow to obtain a table with curving sides will also produce interesting results. These are the starting points for a number of rolled folds. These folds, like many others, can be worked into objects such as bowls by collapsing the entire bowl, clamping it in the vise to make the T-fold and then opening it. They do not have to be run across a whole sheet but like line folds can be centered by leaving the loop loose on the ends of the fold. A very long T-fold strip can be passed through the vise and shaped up in sections. The vise jaws can be replaced by two pieces of angle iron if the screw of the vise becomes a limiting factor.

T-FOLDS: LEGS PINNED AND FREE

Figure A (below) illustrates two T-folds made from the same size piece of metal with loops and tables of equal size. In A, the fold edges have been directionally forged with the legs pinned tightly in a vise. Figure B shows an identical T-fold blank where the legs have been forged free, perhaps holding the T-fold against the side of an anvil for the forging. The possibility of having parts pinned versus free offers another important option in fold forming.

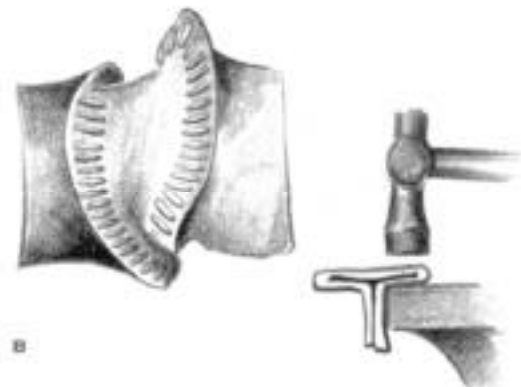
T-fold with legs pinned and legs free.
Even a small distinction like this can yield considerably differing results.



One variation on a T-Fold uses blocks of wood or metal to hold parts of the form open.



A



B

COPPER SULFATE (aka "Green Patina")

Gloves, good ventilation.

Works on:

Copper, brass and bronze (not much difference between the three). Use this when a green color is desired but the piece cannot be heated.

Colors:

Pale, variegated, crusty green color. This patina is pretty thick and opaque so textural details are often lost.

Directions:

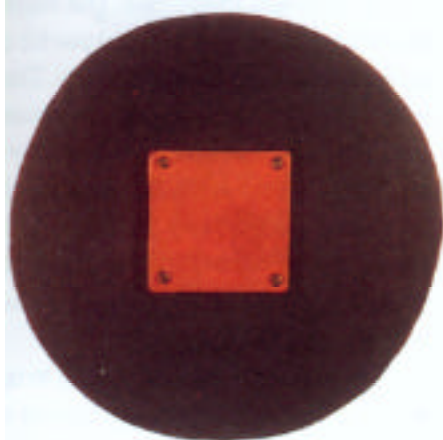
After much experimentation I have found that the commercially prepared "green patina" solutions are more effective than copper sulfate alone. There seems to be a "secret ingredient" in the commercial solutions and each manufacturer's recipe seems to have its own particular quirks and characteristics. In general, this process works best when the piece to be colored is grease free and has been sanded to provide a tooth on the surface. Dip, brush or spray the solution in thin layers. Let each layer dry completely before repeating. I've found that with a few of the solutions, drying in the sun helps to develop a better color. Once the desired color is achieved, let the piece dry for another day before finishing.

Notes:

One of the big drawbacks of this patina is its tendency to flake off, making it less desirable for jewelry or objects that will be handled. If this starts to happen during the coloring process, brush the flaking area lightly to remove what would fall off anyway and continue the coloration.

Finishing:

After drying the piece completely, wax carefully or spray with a matt acrylic spray (see Resources). Waxing won't work well if the patina is flaky. The acrylic spray can help to glue down loose bits but the surface will remain somewhat delicate.

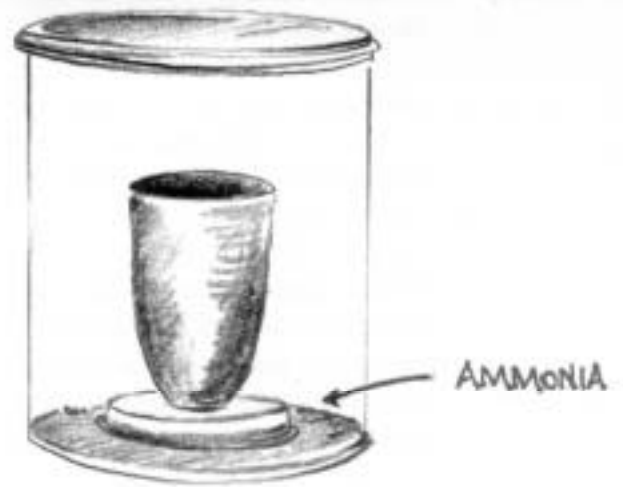
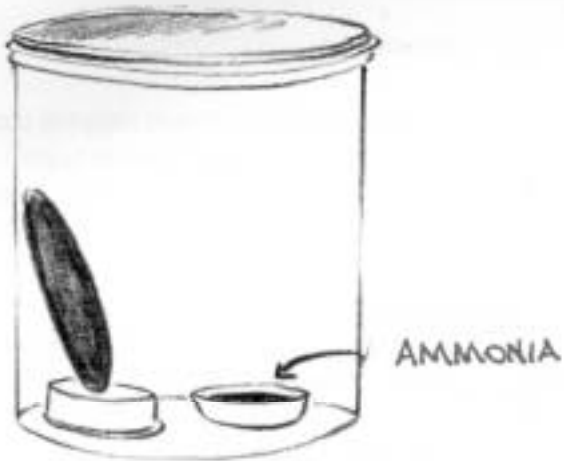


Left, top

Liver of sulfur (outside) and heat patina on copper (center)
(made separately and riveted together)

Left, bottom

Dilute liver of sulfur on red brass with sterling
(marriage of metal)



PLASTIC DRUM WITH LID



Alternate fuming arrangements.
 A tent is useful for large or irregular pieces.
 If possible, use clear plastic
 so you can see what's happening
 without opening the container.