

Additional forging days..."Play Days"

The NW region has set up some additional forging dates. They all fall on the 5th Saturdays of the Month.

- March 29th, a "Play day" will be held at Elk City at the Route 66 Museum Blacksmith Shop. Lunch is provided but bring a side dish.
- May 31st. Elk City Blacksmith Shop
- August 30th will be held at Mandell Greteman's shop in Foss, Okla.
- November 29th will be held at Don Garner's shop in Thomas.

These "Play Days" are different from Workshops that are also held on those dates. Anyone that wants to host a workshop, including one in the NW region, should let the Education Coordinator know.

2014 Workshop weekends...

March 29th

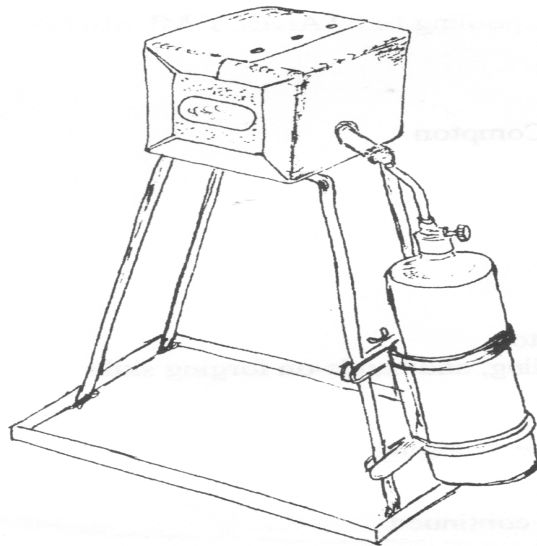
May 31st

August 30th

November 29th

Mini Torch Forge

by Carl Davison



The only thing that I could legally use as a heat source in my Manhattan Jr. High shop was a propane torch, hence this mini torch forge.

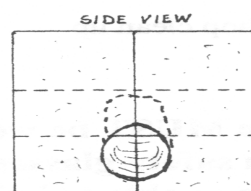
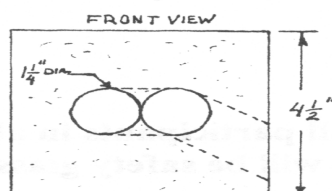
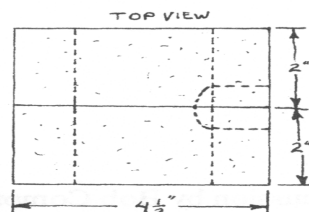
Basically it is just soft fire brick cut in half, drilled with a 1-1/4" hole saw and wrapped in sheet metal with a stand. Everything is pretty obvious and can be adjusted to your own preferences.

The angle for the side hole to accept the torch head matches the angle of the particular torch you use.

Since the torch at school is a different length than my torch at home I made an adjustable torch holder as opposed to making the stand match the size of the torch.

The legs are welded to a sheet metal pan so a weight can be placed in the pan for stability.

Putting on a back door is an option. As is, it has enabled my students to experience some simple forging on 1/4" stock for hooks and heart puzzles.



Reprinted from:
Northeast Blacksmiths
Association

PIONEER WOMAN WORKSHOP

CELEBRATE

National Women's Month

Learn:

- Gardening
- Fiber Arts
- Cooking
- Sewing
- Soap Making

Workshop costs \$100

for all materials and supplies, including lunch.

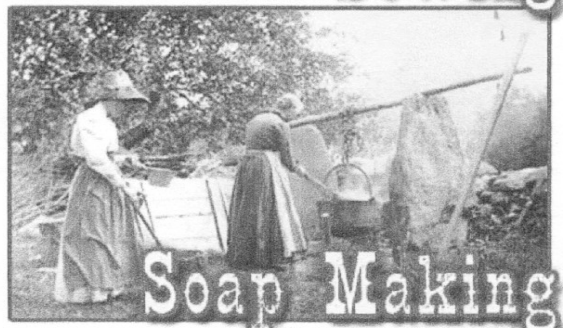
Class begins 10am & ends at 5pm.

March 8, 2014

For more information:
education@okhistory.org

**OKLAHOMA
HISTORY
CENTER**

800 Nazih Zuhdi Drive
Oklahoma City, Oklahoma



Hummingbird

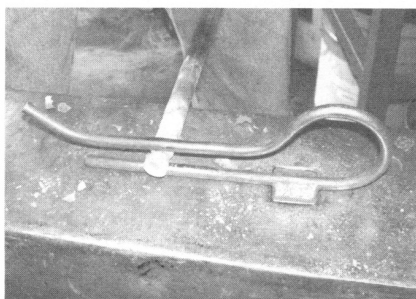
by Steve Manning

Pictures & Article by Pam Manning



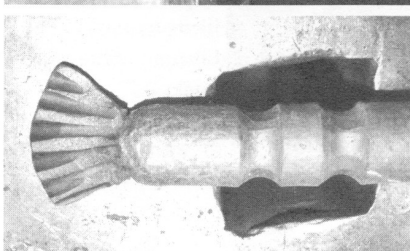
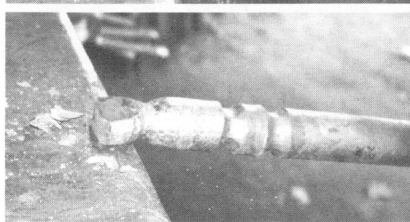
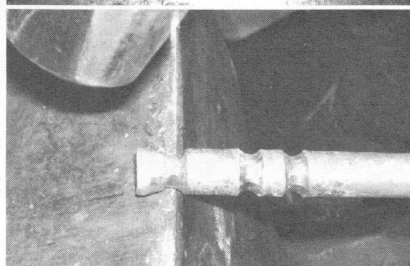
This hummingbird can be displayed with its beak inserted between the stamens of a steel flower or a tiny screw eye can be added between the wings so the hummingbird appears to hover when it is suspended on fishing line. It is made with a combination of traditional blacksmithing techniques and modern metal working equipment.

Steve begins his hummingbird using 1/2" round stock. Only a short piece is required but it is best left attached to a longer piece to use as the handle. A small spring fuller works well to create the indentations between the body segments. Ours is



made from a straightened out section of 1/4" round, garage door spring, which has been welded to a hardy attachment. A larger fuller will cause the hummer's neck to turn out too long.

Start by defining and laying out the segments of the bird, beginning with the tail end of the hummer. The first fuller indentation is made 1/4" from the end of the round stock. The fuller groove should be about 1/8" deep, rotate the stock while striking to keep it round. Move approximately 1" up the stock and make another 1/8" deep fuller. This will be the hummer's neck, heat as needed to keep it at a red heat while working. The beak fuller will be



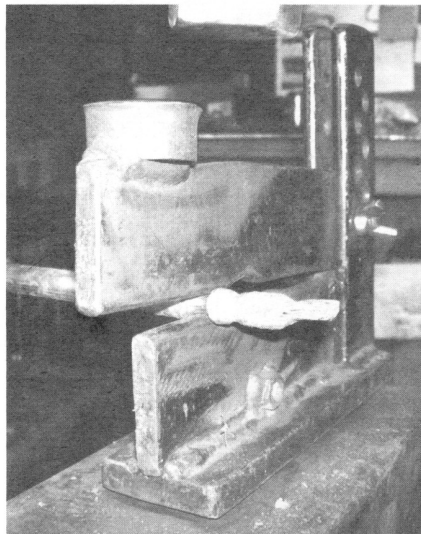
between the hummer's head and handle, about 1/4" from neck fuller. This last groove can be deeper than 1/8" but it should be left thick enough to support the project while heating and working the tail and body.

With the bird's body held off the near side of the anvil (to avoid flattening it), the tail segment is the first section worked. Set up the tail portion by tapering it from the groove to the end. Then flatten the tail into a roughly triangular shape, allowing the material to radius out at the end. Keep the two sides straight and flatten to approximately 1/8" thick. Bevel the outer edges of the tail to make it appear thin, but keep the tail stock thick to avoid overheating it. Then heat and add peen marks for the tail feathers. Heat as needed to taper the area of the hummer next to the tail to a gently rounded shape.

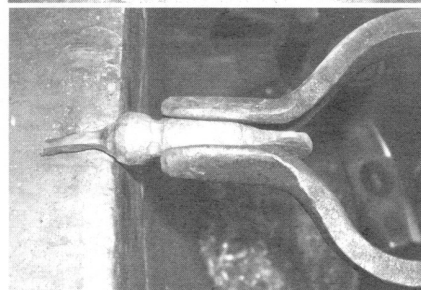
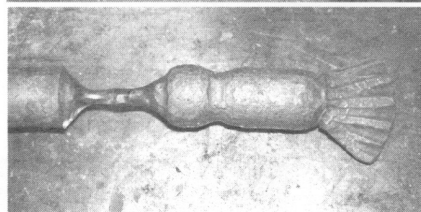
Hold the hummer on the anvil at the angle you want the taper to end up with, and strike with the hammer at the same angle, rotating the stock to keep it round. Repeat this, at the neck fuller but

keep the shoulder and head at a steeper angle than the tail end. This step can also be achieved by inserting the

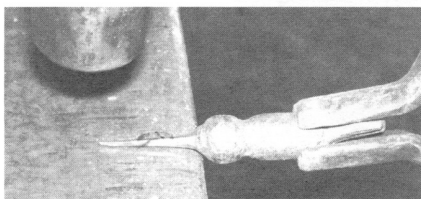
hammer into the spring fuller and striking it while holding the hammer at an angle and rotating. Use caution and don't make the neck appear too long, then round up the head to resemble the bird pictured.



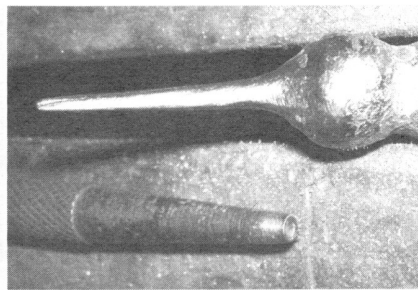
The next step is to fuller or draw out the beak, this can be done with the same spring fuller used earlier, but Steve feels that it is easier to use a scissor fuller. The beak should rapidly taper and be rounded up to about 1/8" thick next to head. It will be drawn out from 3/4" to 1" long when finished. Cut the bird from the parent stock leaving about 5/8" to 3/4" depending on how deep your indentation was for the beak.



Draw out the beak square to a fine point, then round up. This will require careful heats to avoid burning off the beak.



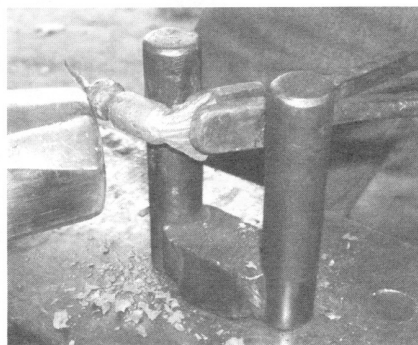
File smooth any rough spots in the transitional area between the beak and the head.



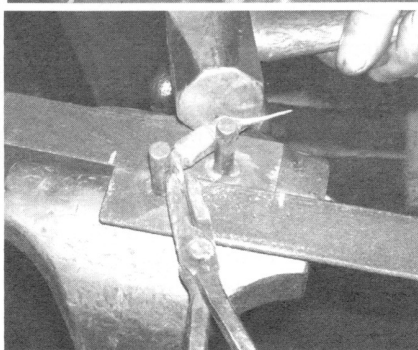
The eyes are best punched hot but you have to be careful not to distort the body in the vise. If desired after heating you can quench the body and tail before clamping it in the vise with the head supported. Use a small eye punch or a 4/32 nail set to make a 1/16" eye on each side of the head. The eyes are positioned slightly above center and about 1/4" from where the beak starts.



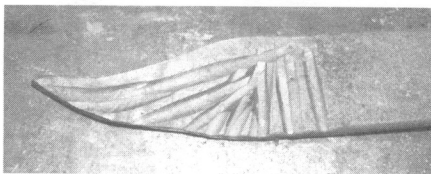
Hummingbirds naturally hold their tail in when they hover so the head and tail need to curve forward. Heat carefully, holding the hummer by the tail, position it on its side



between the tines of a bending fork. Position the tail against one post for leverage and carefully hammer the head into a forward curved position. The beak may be carefully quenched first to avoid distortion - use caution not to distort the eyes. Quench, then wire brush the piece to remove any scale before attaching the wings.

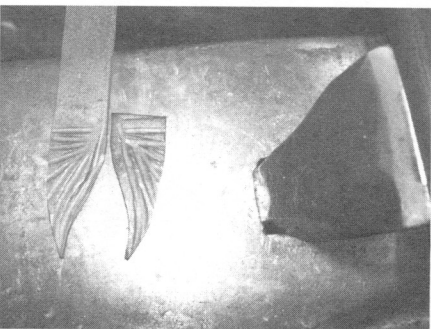


The wings are made from 3/4" by 1/8" bar stock. Heat several inches, then stand the bar stock on it's narrow edge and hammer a 1-1/2" taper to a slightly blunt end for the wing tip.

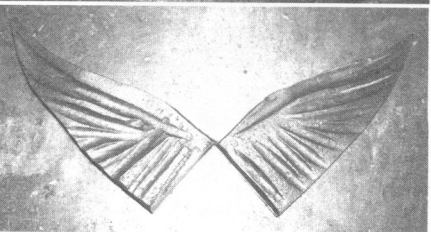


Fuller in lines to represent the feathers. Begin with a line running along the tapered edge and then for about a 1/2" along

the edge of the original bar stock. Heat as needed, add more fuller lines that radiate to the other edge of the wing until the marks are perpendicular with the bar. Add three or four more "feather" lines extending across the bar. These fuller lines will cause the underside of the wing to curve up.



Hold the tip of the wing on the anvil horn and curve the wing tip up even more to give the illusion of flight. Cut the first wing off from the bar stock and repeat for the second wing.

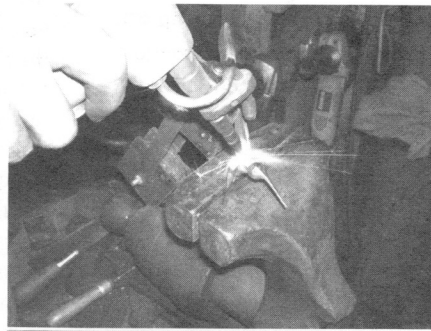


The peen marks will need to be on the opposite side of the stock to make a right and left wing.

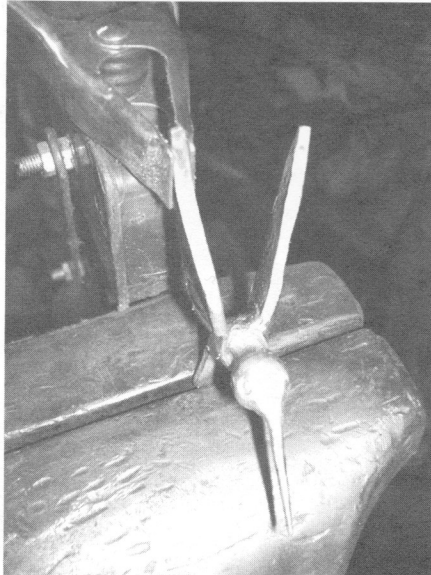
The two wings are attached using a torch because we haven't found a satisfactory way to attach them using traditional blacksmith techniques. Steve uses a clamp and magnet to position each wing on the body.



Clamp the wing, then weld and fill any slight voids between the wings and body with welding rod.



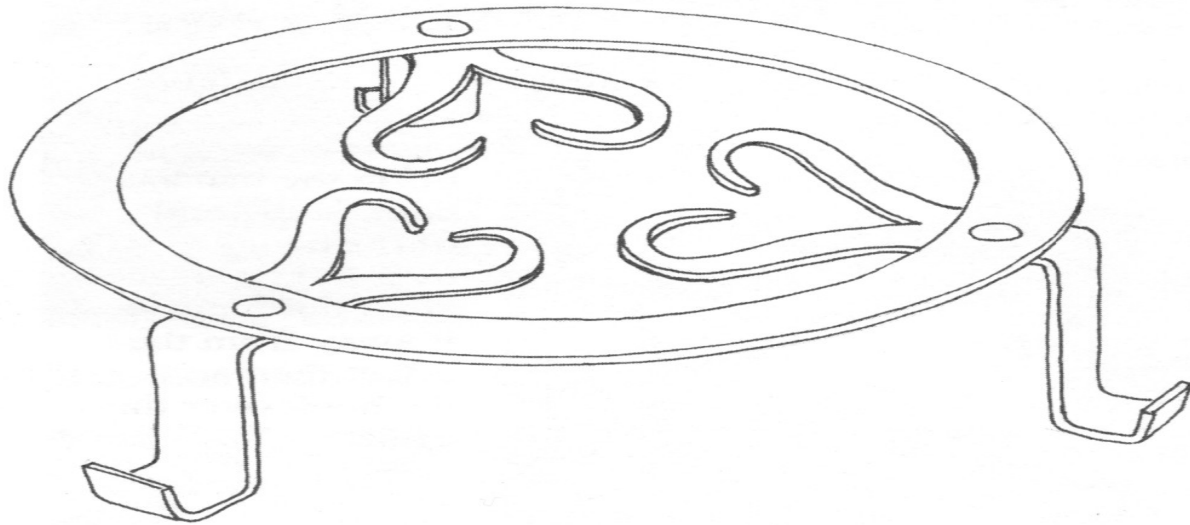
The wings are attached approximately 3/8" apart near shoulders of hummer.



The wing tips arch to 1-1/2" to 1-3/4" apart and curved in at the tips. Once welded on, the wings may be heated and tweaked into position. A file may be used to clean up the weld if necessary.

Each hummingbird is an individual ready to display with its beak inserted between the stamens of a steel flower. As mentioned at the beginning of this article a hang-up version can be made by drilling a small 1/16" hole all the way through hummer, between the wings. Insert a thin wire with a tiny eye rolled up in the end, then tack weld it on the underside, to anchor it then file smooth if needed.

You can apply whatever finish you prefer, we like to use "heat color." After cleanup, use a torch to heat it to the desired color, then quench. Seal and protect it with clear spray paint or powder coat.



Heart Trivet

This trivet is made entirely from the same dimension stock: 3/4" x 1/4". The ring is made from 27" of stock, and each of the three legs require 10" of stock.

The first job is to bend the ring and weld it. Of course edge bends are not easy, but with good heat (bright orange to yellow), they are not too bad. This job is made easier if you have an appropriate size piece of pipe to bend around or a cone mandrel to true up the circle when completed. You'll find it easier to forge the weld scarfs before bending, remembering to turn one, one way and the other the opposite way. This is not a difficult forge weld, because the metal stays where you want it until welded. Be sure to clean the area to be welded thoroughly, before taking a welding heat.

Once the ring is complete you can start on the legs. You begin by splitting about three inches of one end of the leg right down the middle. There are several ways to cut the material. An easy way if you have a band saw is to make a three inch saw cut down the middle. There are two ways to use a hot cut to split the material. One is to lay the hot iron on a cutting plate on the anvil and cut. This usually requires the use of a "hold down" of some type. However, I prefer to use the method I learned from Peter Ross, which is to put the stock in the vise with about one inch of the end sticking up, and cut straight down. It will take about three heats to do it this way, one inch at a time.

After you have split the end of the stock, you make a convenience bend to get one of the sides out of the way, and proceed to draw it out to a point. Then bend the pointed side out of the way and straighten the other side and draw it out to a point. It helps if you mark the length of the first point on your anvil so you can draw out the second one to match it. When you have both sides drawn out to equal length, you shape the heart over the tip of the horn or a round bick. You'll be surprised at how easy this is! Obviously the above procedure is repeated two more times to get the three legs required.

Once the hearts have been formed you need to make the necessary bends in the legs. (See drawing) Drill or punch for rivets to attach the legs to the underside of the ring, being careful to divide the ring into three equal sections. Countersink the holes in the ring so that the rivet will not stick up above the surface of the ring.

Use your own judgment on the length of the leg and the shape of the foot. The dimensions given produce a trivet that is about 4 1/2" tall.

This project is fun; try, it! **BTS**

Heart

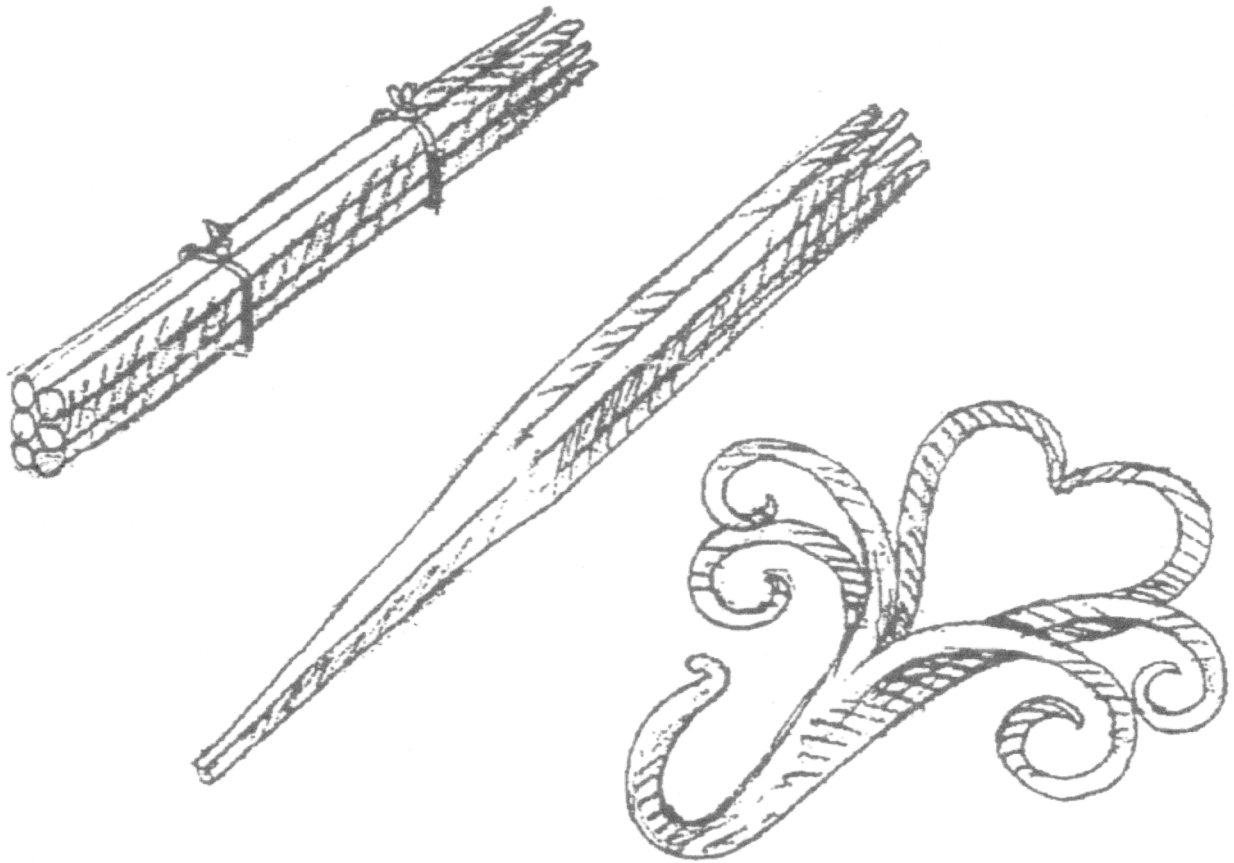
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Scroll Hook

by Pat McCarty

This simple hook will make a nice Valentine's Day gift when that time comes around and is a good piece to practice your forge-welding technique on.

1. To start, cut six pieces of 3/16 round to 10 inch lengths.
2. Draw the one end on each rod to a point.
3. Bundle the rods and wire them tightly together.
4. Forge weld the square ends for about 3 inches.
5. Form the welded end to a point and bend into a hook.
6. Shape the two center rods into a heart shape using scrolling tongs.
7. Form the remaining four rods into scrolls.



By Pat McCarty, President of Blacksmith Association of Missouri,