

Saltfork Craftsmen Artist-Blacksmith Association

August 2011



Larry Dean Morefield

June 24, 1949-July 12, 2011

President's Notes

Gerald Franklin

Saltfork has lost another longtime friend in Larry Morefield who passed away on July 12th. Many of us can remember several fond meetings at Larry and Linda's place in Medicine Park. I personally never left a meeting without some sort of inspiration or idea for a new project. He was very active in community affairs in the Medicine Park area and was a solid spokesman for blacksmithing in the southwest Oklahoma region. We will miss Larry.



As I mentioned in last month's newsletter, we are still asking for tools for this year's toolbox. Bill Kendall is the designated tool collector for these tools but if you have something to donate for the box project, just give it to any of our directors and they will make sure it gets to Bill Kendall. Please take time to make and donate one or more item for the toolbox.

We are again scheduled to demo at the Oklahoma State Fair. This year's fair runs from September 15th through the 25th. Start planning now to put your name down for one or more days at the fair. The list will be available soon.

Our annual conference will be held on 15-16 October. That's a long way out, but I just wanted to suggest to you that it's never too early to get a nice piece ready for the gallery or the auction. Why not both? Our gallery gets bigger each year and we'd like to see your work there this year. And, while you are thinking about the conference, remember to make your hotel reservations.

I have had a couple of calls about the scroll workshop in October. We haven't started taking registrations for this workshop yet but it's encouraging to see that there is interest. We will start taking registrations in early October so watch the October issue of the newsletter for details.

SOUTH CENTRAL REGIONAL PAGE

Meeting dates:

January 15, 2011

Host: Bill Davis

Phone # 580-549-6824

February 19, 2011

Host: Gerald Franklin

Phone #: 580-252-6002

March 19, 2011

Host: Terry Jenkins

Phone # 405-476-6091

Trade Item: Cross

Lunch: Sack Lunch/ On your own

April 16, 2011 (ANNUAL PICNIC)

Host: Byron Doner

Phone #

May 21, 2011

Host: Bo Hall

Phone # 405-485-2690

Trade item: Wall hanger

June 18, 2011

Host: Diana Davis

Trade items campfire tool

Lunch: hot dogs

July 16, 2011

Host: Terry Jenkins

Phone # 405-476-6091

Trade item: Fork

August 20, 2011

Host: Richard Simpson

Phone # 405-334-7413

Trade item: camp item

Sept. 17, 2011

Host: Bob Kenemar

Phone #:

Trade item: hook or hanger

October 15-16, 2011

SCABA Conf. Perry, Okla.

November 19, 2011

Host: Bill and Diana Davis

Phone #: 580-549-6824

Trade item:

December 17 2011

Host:

Trade item;

Meeting Notes:

Terry Jenkins hosted the July meeting for the South Central region and there is only one word that describes the day and that is HOT. Several of us, including Terry, started the day off by attending the funeral for Larry Morefield, long time member and friend. It was starting to get hot by the time we left the cemetery and headed for Blanchard where Dawnavan Crawford had been acting as meeting host until Terry could return. Due to the burn ban there weren't any forges set up so all the forging was done at the one forge inside Terry's shop.

Terry provided a lunch of sandwiches with cool watermelon and cantaloupe to go with them. For dessert he made a pie in a Dutch oven.



Because of the heat there was a lot of standing around under the trees visiting.



Meeting in August will be a Richard Simpsons. We hope we will have a break from the heat but still might be in a burn ban. Please try to attend even if we can't forge we still have a good time.

NORTH EAST REGIONAL PAGE

Meeting dates:

January 8, 2011

Host: Gary Gloden
Phone # 918-321-5015
Trade item; made from horseshoe

February 12, 2011

Host: Gerald Brostek
Phone# 918-687-1927
Trade item. Valentine

March 12, 2011

Host: Dan Cowart
Trade items: Spoon

April 09, 2011

Host: Omar Reed at Ft. Gibson
Trade items:

May 14 2011

Host: James Maberry
Phone #: 918-636-7773
Trade item; cooking utensil

June 11, 2011

Host: Mike Krukoski
Phone #:918-789-2484
Trade item: **Garden Tool**

July 9, 2011

Host: Clayton Hall
Phone #918-605-6241
Trade item; **Kitchen tongs**

August 13, 2011

Host: Bill Kendall
Phone# 918-742-7836
Trade item

Sept. 10, 2011

Host: Dan Cowart at Pawhuska, Ok
Phone # 918-440-0653
Trade item: Leaf

October 2011

State conference

November 12, 2011

Host: Matt Goyer
Phone # 918-272-8424
Trade item:

December 10, 2011

Host: Charlie McGee
Phone #: 918-245-7279
Trade item: ladle

On July 9th Ron Lehenbauer, David Sanders, Jacob Sanders, Danny and Pat Cowart, Nathan Avers, Ed McCormack, Tracy Cowart, Chuck Waite, Gerald Franklin, Mike Krukoski, Bill Davis, Diana Davis, Jimmie Crenshaw, Charlie McGee and others showed up at Clayton Halls shop to enjoy the 100 degree temps and forge a few kitchen tongs. This was the Northeast meeting. Most of us sat under the shade and watched the few, the brave, Mike Krukoski, Chuck Waite, and Tracy Cowart hammer on the hot iron. Ron

Lehenbauer had an audience and was showing off his newly made metal shear for cutting out flower petals. I soon realized that Ron is a lot smarter than he looks as he was cold forging roses on this extremely hot day. Ed Brought his carved wooden anvil and stump with wooden hammer and hardy tool.

Judy, Pat and Mecca were making some sort of fine woven rope that I can't remember what it is called, but Judy told me was strong enough to tow a pickup with. Soon we heard the dinner bell ring and we had to leave the shelter of the shade and feast on some of the best barbecue I have ever sunk my teeth into. We topped that off with all sorts of tasty deserts too numerous to mention.

Gerald Brostek, Saltfork Craftsman



NORTH WEST REGIONAL PAGE

January 22, 2011

Host:
Phone #
Trade item;



February 26th, 2011

Host: Mandell Greteman
Phone # 580-515-1292

March 26, 2011

Host: Dorvan Ivey
Phone #:
Trade item; letter opener

April 23, 2011

Host: Mandell Greteman
Phone # 580-515-1292
Trade item: **Grilling tool**

May 28, 2011

Host: Don Garner/Mandell Greteman
Phone #:580-661-2607

June 25, 2011

Host: Mike George
Phone #: 580-829-1968
Trade item; Paper Towel holder
Lunch, Pizza cooked in wood fired horno.

July 23, 2011

Host: Tom Nelson
Phone #: 580-862-7691
Trade item: camp fire trivet
Lunch: brown bag/on you own
Special program: hot wagon tire setting (10:00 am)

August 27, 2011

Host: Gary Seigrist (Elk City Route 66 Museum)
Phone #:

Sept. 24, 2011

Host: Ron Lehenbauer (Fairview Thrashing Bee)
Phone #:
Trade item; Fire tool

October 2011

State conference

November 26, 2011

Host:
Phone #:

December 24, 2011

The NW Regional meeting was hosted by Tom Nelson at his shop in Douglas. Tom had planned to hot set a wagon wheel but with the burn ban that was not possible. Tom has a 1914 vintage hydraulic tire shrinker that he demonstrated instead. A steel tire was slightly upset cold in several places to tighten it on the wooden wheel.

Those that came for coal were loaded out and some simple demonstrations were done at the inside forge.



Ron Lehenbauer brought this very interesting old vise for show and tell. It's had some pretty neat repairs over the years, like the tin strap holding the nut on the back.

This has to be the smallest hand forged copper rose cross I've ever seen. Ron Lehenbauer made it from copper wire and a horseshoe nail



Had cowboy beans and cornbread for lunch.



By: Jim Carothers

SOUTH EAST REGIONAL PAGES

February 5, 2011

Host: Eddie Horton
Phone #: 580-873-2634

March 5, 2011

Host: Eddie Horton
Phone #: 580-873-2634

Cancelled

April 2, 2011

Host:
Phone #:

May 7, 2011

Host: Bill Phillip
Phone # 918-200-4263
Trade item: steak turner

June 4, 2011

Host: Old Frisco Depot
Jackson street and railroad tracts in Hugo, Ok
Trade item is something from a RR Spike
Restaurant in Depot
Contact Mark Hamell at 580-317-3700

July 2, 2011

Host:
Phone #:

August 6, 2011

Host: Bill Phillip
Phone #: 918-200-4263
Trade item: rabbit head

Sept. 3, 2011

Host: Eddie Horton at Fort Towson
Phone 580-513-8370

October 1, 2011

Host: Bill Phillip
Work day for conference
Tool box

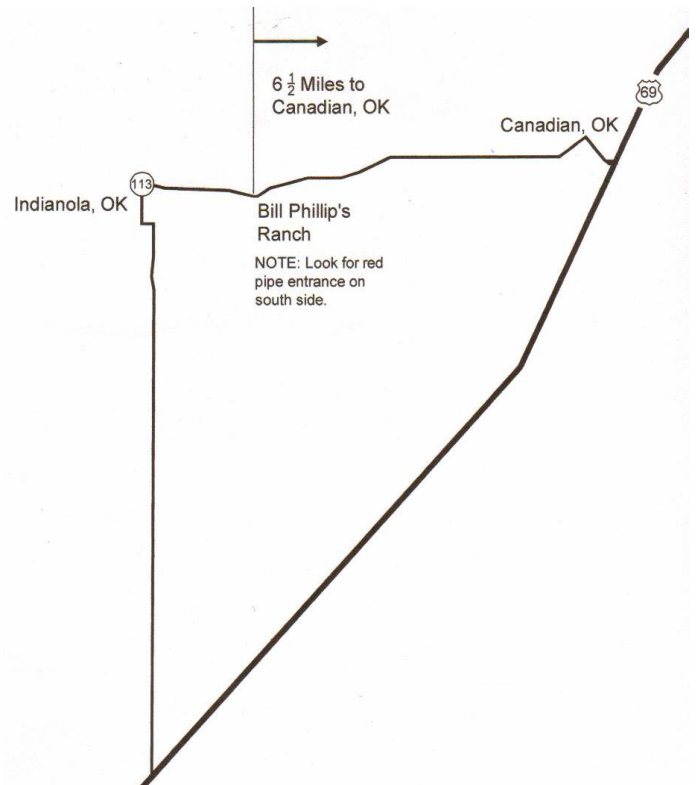
November 5, 2011

Host: Eddie Horton at Peter Conser Historic home
SW of Heavener, Ok
Phone #:

December 3, 2011

Host:

*The August meeting will be at Bill Phillip's place.
Look for map. Trade item is something with a rabbit
head on it.*



The September meeting will be hosted by Eddie Horton and will be held at the Fort Towson Historical site under the pecan trees. Food will be provided by Mr. Wallace again using his Dutch ovens. Mr. Wallace has volunteered to teach anyone interested how to cook using the Dutch ovens. The trade item is something to used in Dutch oven cooking and Eddie Horton has asked that the smith consider making and donating the Dutch oven tool to Mr. Wallace in appreciation for his cooking the meal.

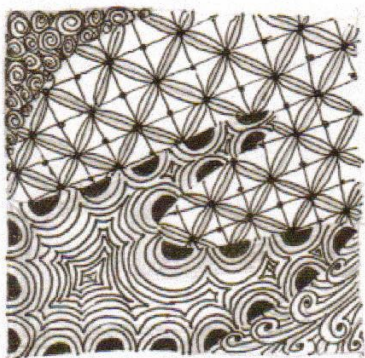
Fort Towson Historical site is just each of the town of Fort Towson Ok. In far Southeast Oklahoma. From Hugo Oklahoma go east Approximately 13 miles on hwy 70. After you pass through the town of Fort Towson and cross a 5 lane bridge, watch for a sign directing you to turn north. go approx. 3/4 of a mile and then turn in the wooden gate in the split rail fence and follow the road down the hill to the shade and the smoke.

Upcoming events:

- ♦ Sept. 15-25 State Fair of Ok. Could use a few more to come and demo. Let Diana know if you have time to donate. If the burn ban is still one we may need to come up with ideas that don't include a forge. Like Ron's roses or some repousse'. For more info about the state fair contact Diana Davis.
- ♦ September 24th is one of the days for the Fairview Threshing and John Deer Show. Ron Lehenbauer is hosting a meeting in the Blacksmith shop there on that Saturday. The trade items is a fire tool. Plan to attend the meeting and enjoy the many tractors and other vendors on site.
- ♦ Tyner Tractor Club Show, Blackwell, Ok Oct 8th, 2011. Kay County Fairgrounds at 800 S. Main St. (Hwy 177) Blackwell, Ok. Starts at 9:00 am and goes until 5:00 PM that day. Contact Truman Steiner 580-363-3309 or Richard Wyler at 580-628-1143 for more information.
- ♦ SCABA Conference is October 15 and 16th with setup day being the 14. It is held each year at the Fair ground in Perry, Okla. You will want to book your rooms as early as you can because sometimes we have to compete for rooms with the home football games for Stillwater. I have a schedule but haven't look to see if this is one of those years. Doesn't hurt to book early. Our attendance grows each year.

This is the information on one of the classes that will be offered at the Conference. Make sure to register early because class size is limited. Registration forms should be in next Months newsletter. You should find a conference brochure in this newsletter. Make sure you book your hotel as early as you can.

Sheryl Carothers has agreed to teach an artform called Ztangles. It is a form of doodling that is a neat way to relax your mind and have creative fun at the same time. Sheryl brought her books to the picnic and it looked like a lot of fun. If you are interested and want to find out more you can find lots of info and You Tube videos on how to make Ztanges on the web. Sheryl said that the cost would probably be limited to the price of the pens but feel that we should also add some in for the instructor. There are always hidden cost that the instructor doesn't realize when she is pricing out a class. This class will probably not have a limit but we need to know how many pens to purchase. If you think you want to attend but won't



know until quite late you can order your own pens from Amazon.com

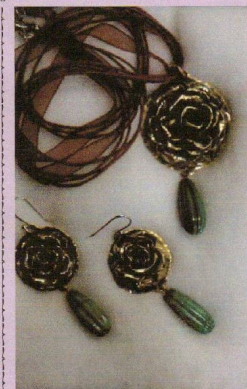
Copper Rose Pendant and Earrings

Tuition: \$40.00

Materials:\$5.00

Materials Provided:

Copper or Bronze Sheet
Copper Wire
Hypo Allergenic Ear Wires
Choker Style necklace
Rivets
Patina
Polishing Compound
Dawn Dish Washing Soap
Renaissance Wax
Glue



Tools Needed:

Bench Anvil
Ball Peen Hammer
Sheet Metal Sheers or Scissors
Chain Nose Pliers
Round Nose Pliers
Side Cutters
Letter and Number Stamps
Bench Knife or Pocket Knife
Circle Template
Sharpie Marker (fine point)
Buffer for Polishing or Tumbler
Tooth Brush
Lint Free Cloth

For the class I will bring the Buffer and Tumbler for the polishing steps. I will have a few tools that can be shared.

Please bring any of the tools you have on the list. Make sure you mark your tools so they don't get mixed up with others.

This class touches on several aspects of jewelry making and cold connections. You will learn to set rivets, cut and form metal and use texturing and patinas to achieve desired effects.

Once our roses are done we will touch on a few chain links and clasps while we wait for our pieces to tumble polish.

Estimated Length of class is 4 to 5 hours.

Mecca Waite is going to teach a beaded jewelry class. There will not be a class size limit but please register if possible.

Larry Dean Morefield

June 24, 1949-July 12, 2011



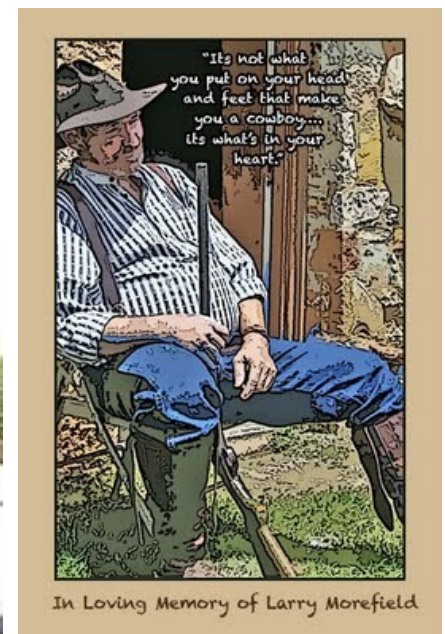
Bill and I first became acquainted with Larry and Linda Morefield when we were looking for Blacksmithing equipment and had heard about one located in Minco, Oklahoma. The Blacksmith shop had been run by Linda's father and had been closed for several years. Larry and Linda were in the process of moving to Medicine Park and were planning to relocate the equipment to their new shop. Larry had worked for Linda's father and was very interested in blacksmithing. We invited them to come to a meeting of the Saltfork Craftsmen and they soon afterwards joined.

Larry operated a Blacksmith shop in Medicine Park and was an actor in the troupe called the Marauders. He was also on the Medicine Park Art Council and worked to bring events to the city of Medicine Park. Larry was a very talented Blacksmith and built a traveling blacksmith wagon and would set it up at all the events that were held in Medicine Park.

Larry worked in Nuclear medicine at Chickasha Hospital but his true love was his family and the Town of Medicine Park.

He was told that he had leukemia several years ago but that didn't stop him from doing what he loved to do. Bill and I visited him about two weeks before he passed away and he showed us a hummingbird that he and his grandson had worked on together and had just recently finished. The Grandson made it clear that the piece should not be sold, so it proudly sits on a shelf in the Morefield home. Larry made and displayed many of his pieces at several of the local businesses.

Larry's memorial service was held in the town of Minco on Saturday, July 16th at the Church of Christ. His final ride to the cemetery was in a horse drawn hearse with his friends and fellow actor dressed in period clothing in tribute to Larry and the life he loved.



Tool Box Tickets

The tool box will be raffled off at the SCABA conference in Perry Ok. on Saturday night before the auction starts. You will be able to purchase tickets at the conference but if you can not attend you can get tickets from several of the members. All the board members have tickets along with the editor. Tickets cost \$2.00 each and you can mail your request for tickets into Diana Davis (editor) along with your contact information anytime as long as it is received before Monday October 10th. You can also get tickets at the monthly meetings.

Members selling tickets:

Ron Lehenbauer	580-758-1126
Mandell Greteman	580-592-4460
Don Garner	580-661-2607
Gerald Brostek	918-687-1927
Gerald Franklin	580-467-8667
Dan Cowart	918-440-0653
Bill Kendall	918-742-7836
Diana Davis	580-549-6824

There are still a lot of tools on the list that have not found a provider. We would like to have as many of these tools as possible for the box. There will be a workday for tool box tools at the SE Regional meeting in October at Bill Phillips place but don't wait that long to make a tool for the box. If you would like to try to make on of the tools needed and don't feel like you have the skills or know where to start, contact one of the other members in your area and set up a day to get together and forge. You don't have to wait for a meeting day to get together and learn or teach a skill.

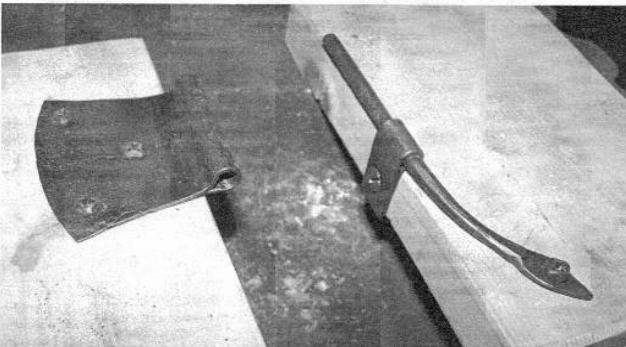
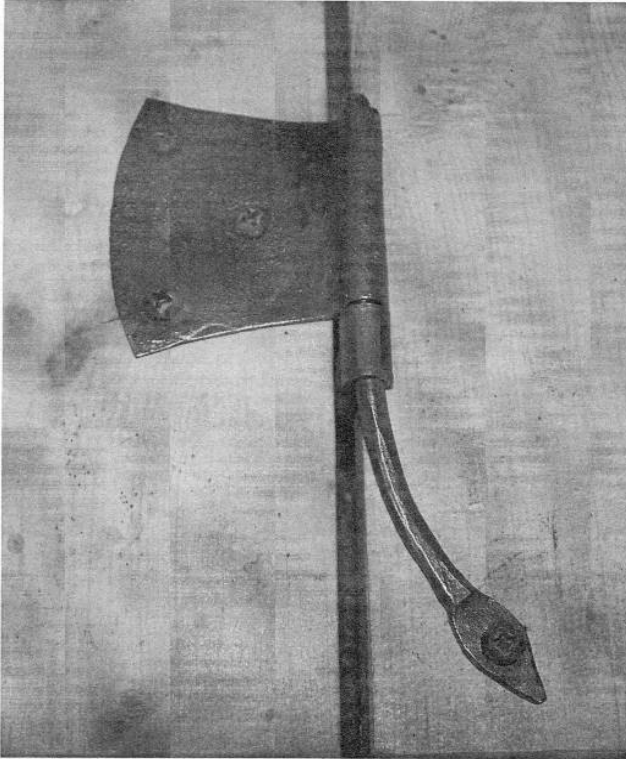
With the intense heat this summer it is hard to think about getting out and making something for the auction but we need to get started on that event. We will also need your admission for the gallery. Be thinking about something you made that you are proud of and bring it for us to see. I know of an anvil carved from a stump that many would love to see. Don't forget about Iron-N-the-Hat donations. Start gathering them up now.

Salt Fork Conference	Tool Box
Item	Donor
Box	Don Garner
Hardware for toolbox	Byron Doner / Bill Kendall
Cross peen hammer	Ron Lehenbauer
Straight peen hammer	
Rounding hammer	Ron Lehenbauer
Tongs	
1/4 V-bit	Please help out by making a tool and getting it to Bill Kendall. The tool box is only as good as the tools in it.
3/8 V-bit	
1/2 V-bit	
3/4 V-bit	
1/4 flat	Help make this one the best yet.
3/8 flat	
1/2 flat	
3/4 flat	
Scrolling	
Side grip	
Pick up tongs	
Fire Tools	
Shovel	Gerald Brostek
Rake	Gerald Brostek
Poker	Gerald Brostek
Hot cut hardy	
Twisting Wrench	
Treadle/Hand Hammer tooling	
Set of punches and holder	
Center Punch	
Chisel, Large	
Chisel, small	
Chisel, hot slit	
Slitting chisel	
Hold down	
Flat wire brush w/handle	
File, flat bastard cut w/handle	Nathan Avery
File, half round w/handle	Nathan Avery
Set of monkey tools	
Rivet backing tool	
Rivet setting tool	
Hacksaw	Maurice Hamburger
Bolster plate	
Bevel Gauge	Maurice Hamburger
Square	Maurice Hamburger
Dividers/Compas	
Scribe	Bill Kendall
Bending forks	Dan Cowart
Spring swage/fuller	
Flux spoon	Jim Carothers
Flux, Iron Mountain	Jim Carothers
Metal folding ruller 24" or 72"	Dan Cowart
Soapstone and holder	Diana Davis
Ball tool (round blunt nose punch)	
Hook ruler	
Finish wax	Gerald Brostek
Nail Header	Diana Davis
Dual Caliper	

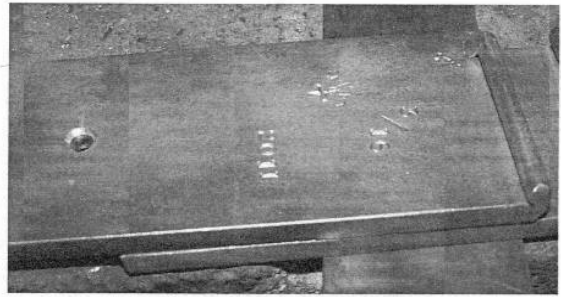
Rat-Tail & Strap Hinges

By Larry Carrigan, a MABA member

Rat-Tail Hinge



The wing/leaf of the rat-tail hinge was cut from 16 gauge (1/16th inch thick) weld-able steel and the rat-tail was made from 3/16" round stock. (editor's note: the size of these hinges can be scaled up or down to fit your project and the mounting end of the wing can be shaped into a variety of motifs –butterfly, dovetail, tulip, horizontal strap, vertical strap... The end of the rat-tail can also vary in design – spade, flame, button, penny scroll... Examples of rat-tail hinges and other hardware can be seen in Volume II of *Early American Wrought Iron* by Albert H. Sonn)



The pivot end of the wing was partially formed over the end of a pivot jig (a piece of 3/16 flat stock with a length of 3/16ths round welded to the side of one end). A 90 degree bend is placed at the break between the mounting portion and pivot portion of the hinge. The mounting portion of the hinge is laid on the plate of the jig and the bend is pushed up tight against the rod. Both pieces are clamped in a vise with the hinge bend resting on the vise jaw and the rod of the jig directly above it. The pivot portion of the hinge is bent around the rod and over the top of the jig, ending up 180 degrees from where it started.

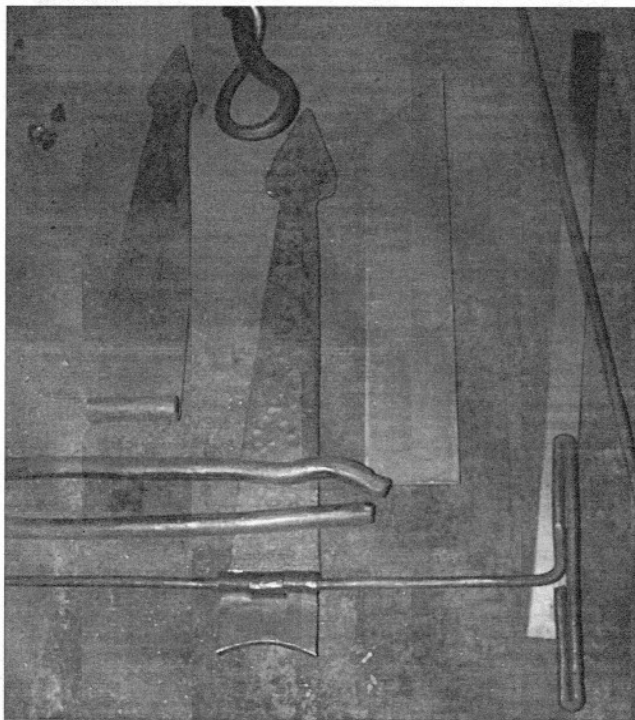
A pivot pin mandrel is used to form the rest of the hinge pivot. A "T" handle formed on one side of the mandrel serves several purposes – helps you twist, push and pull the mandrel while forming the pivot, lets you easily know which end of the mandrel is cool, and help you quickly identify the mandrel from other stock similar in size. The hinge wing was heated, the mandrel placed in the groove created by the jig and hooked over the edge of the anvil. The pivot end was then folded down onto the back of the wing while resting on the face of the anvil. The pivot barrel was shaped and rounded over the mandrel.

After the hinge wing barrel was shaped, it was heated, wire brushed, fluxed (Larry uses an iron oxide, boric acid flux) and welded. The mandrel was worked through the pivot until it moved freely. The mounting wing shape was then refined and three mounting holes drilled into the wing.

A short point was put on the end of the 3/16" rod that would become the rat-tail and a short taper created behind the pointed end. The point was laid on the anvil face with the rod overhanging the edge, and using half face blows, the spade end was created. A graceful arc was created on the lower 2/3's of the hinge pin and a mounting hole put in the body of the spade.

A mounting clip was formed over the jig in the same way the hinge wing was done.

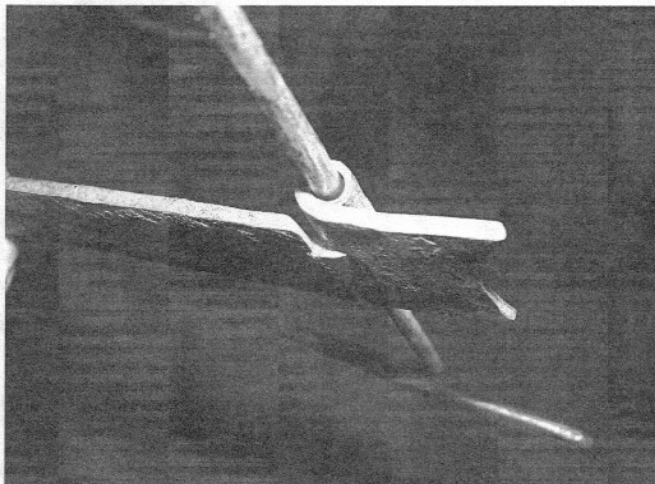
Strap Hinge



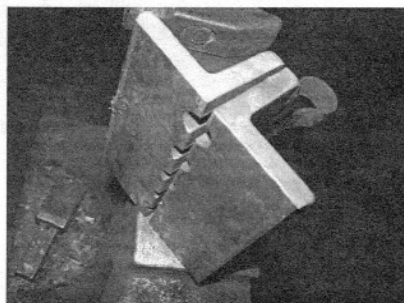
For this demonstration 1-1/2" x 1/8" flat stock was used, though the hinge width and length are project specific, and the spade end was created first. The stock was cut at 45 degrees (on the long side) to save time forging the point. The end was heated and the point moved to the center of the stock. A fuller was used to neck down an area behind the point and the spade end was refined. On the other side of the fullered area, a long taper was developed over the desired length of the strap. Enough material was added to the strap length to make the hinge barrel and the hinge was removed from the parent stock. After the spade end had cooled, the pivot end was heated and the corners knocked down. A bevel was forged on the end of the strap – knocking the corners down minimizes the material spread at the end of the bar while the bevel is being made. A rule of thumb for the size of the bevel is that the bevel should equal the material thickness. Once the bevel was complete, the pointed side of the bevel was laid on the anvil face and slide slightly off the far edge of the anvil. With a hammer, the stock was hit until a noticeable bend was started – by doing this, it will be easily visible which way the strap is to be orientated when coming out of the fire to start forming the barrel. Using the edge, side and face of the anvil, the pivot was rolled so the point of the bevel would lie under the pivot pin, then using a 3/16" mandrel the shape of the pivot was refined.

The pivot barrel of the small end of the strap hinge was formed in the same way as the long side. The width of the barrel segments is up to the hinge maker – typical units are 1/2 – 1/2; 1/3 – 1/3 – 1/3; 1/4 – 1/2 – 1/4 and 2/7 – 3/7 – 2/7. The segments were measured and marked, then the barrel was cut thru with a hacksaw along the appropriate marks.

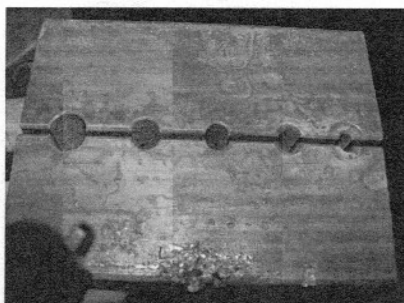
The segments were separated from the hinge body by a hacksaw and a chisel.



The barrels were filed so they fit together and their alignment was checked by inserting the mandrel through all the segments and making adjustments as needed.



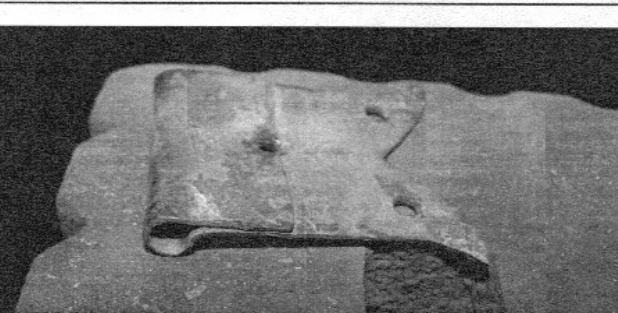
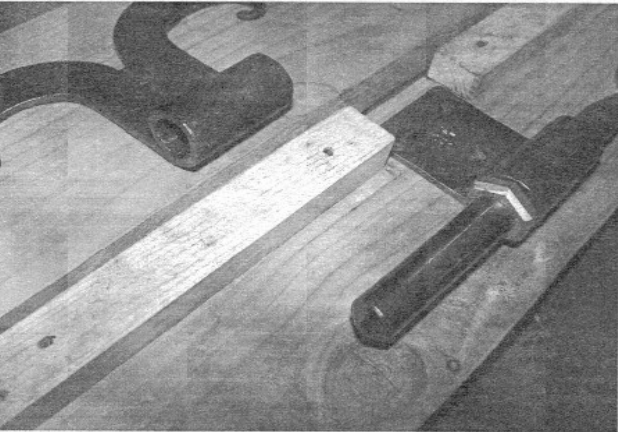
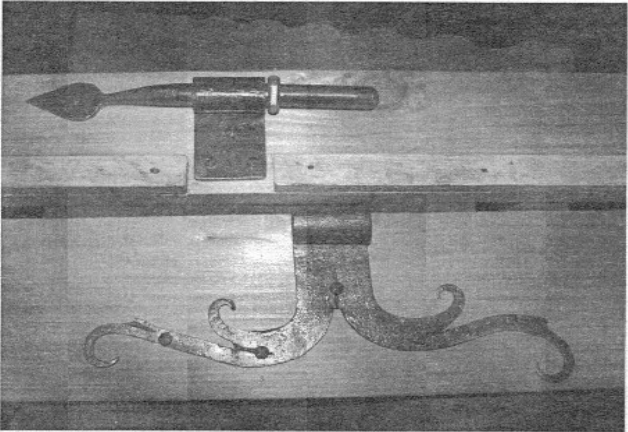
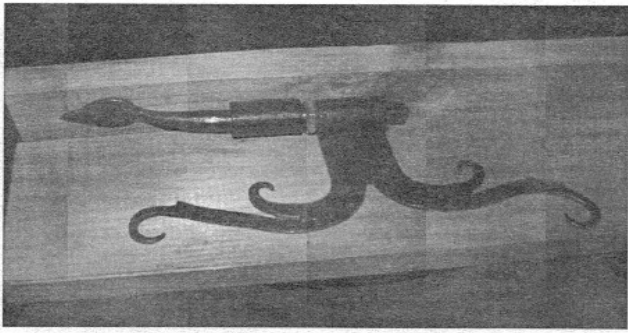
The pivot pin was made using a heading tool clamped in the post vise. (To make a similar heading tool - place a piece of card stock between two pieces of thick walled angle iron, clamp in a drill press vise and drill a series of different diameter holes along the edge between the pieces. The card stock forms a space that helps keep the drill centered and also ensures that the tool will clamp tightly onto the pivot pin stock. Put the



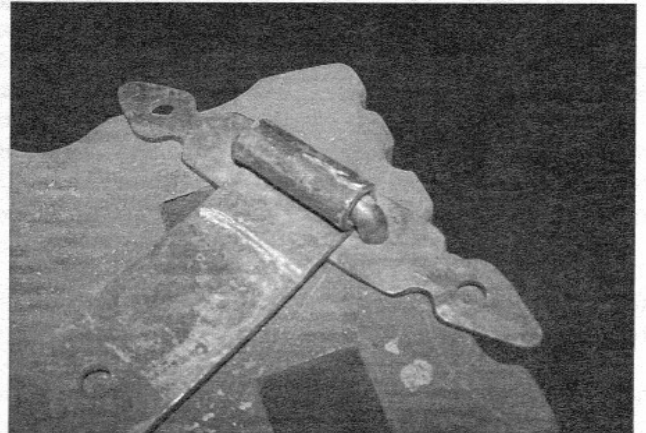
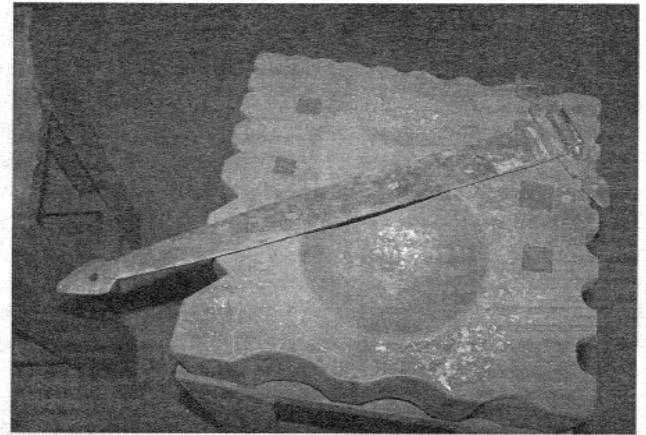
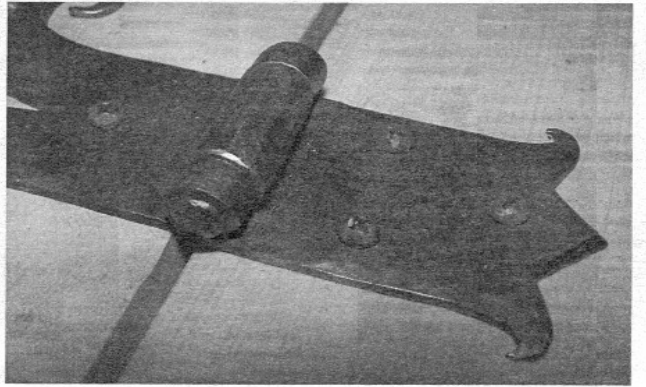
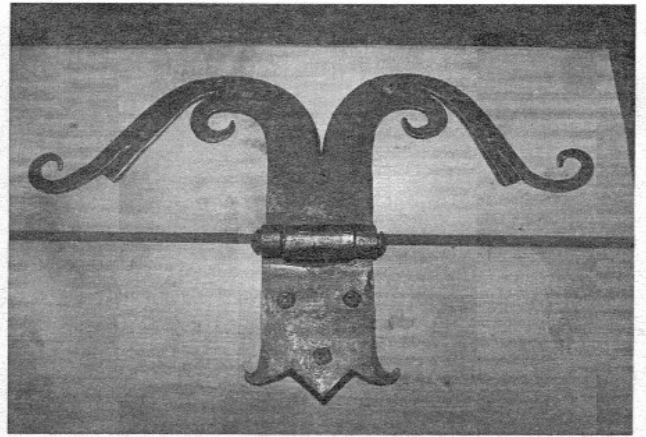
appropriated size stock in the end holes to align the pieces, clamp together and weld a small loop onto the bottom legs to keep the tool together when the vise is opened) A length of 1-1/2 times the pin diameter was left above the heading tool, a torch was used to heat the end and a head was formed using the peen of a hammer. The head was finished with a rivet set.

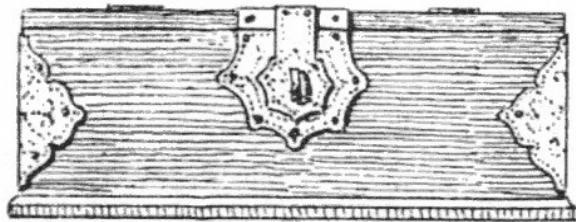
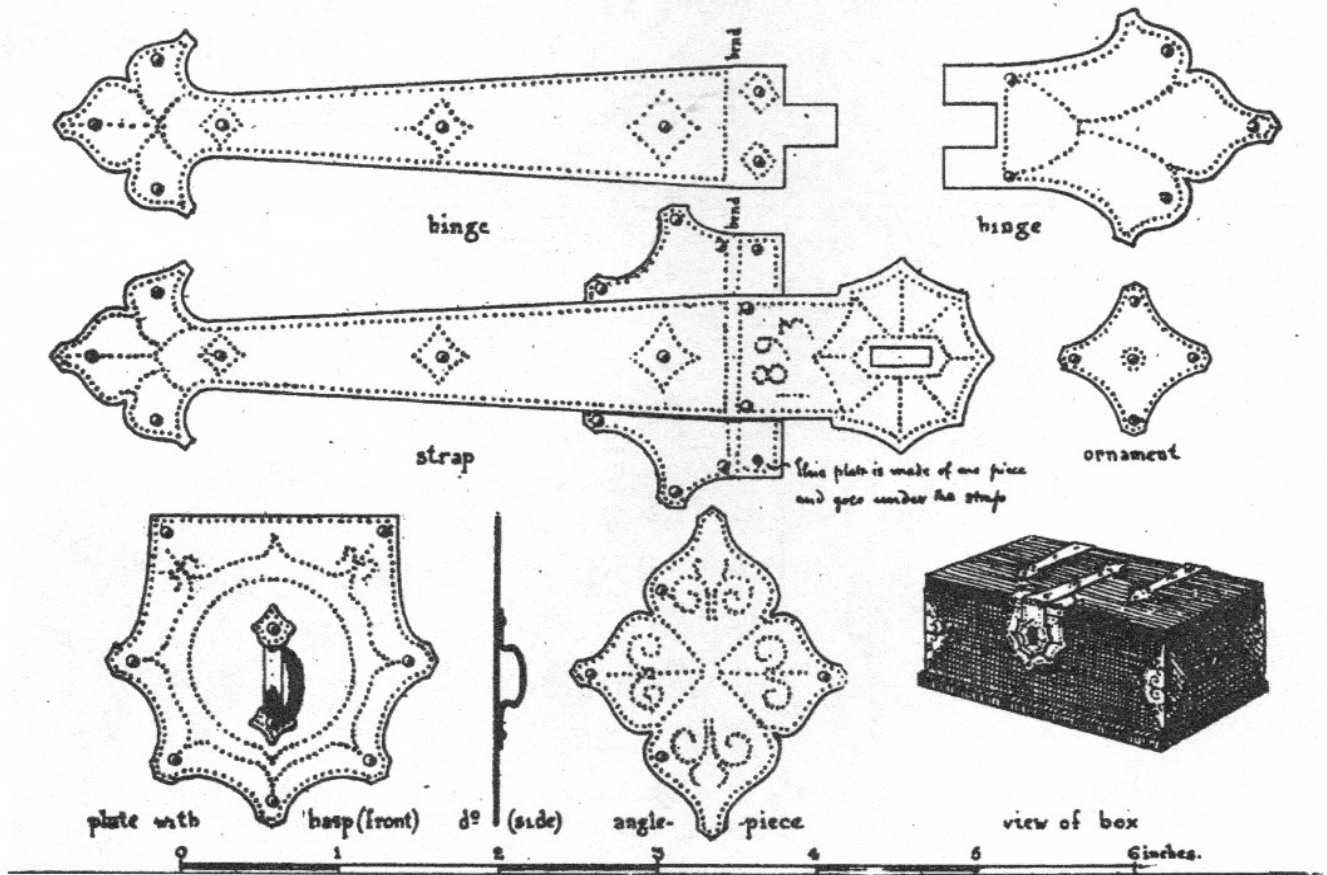
Once done, the pin was cut from the parent stock so it would pass through the hinge and have enough material to form a second head. All three parts were then assembled and the second head was formed.

Other display examples of hinges Larry had made.

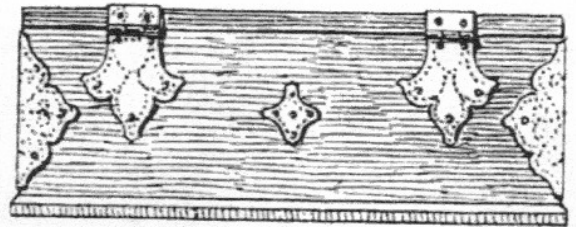


This example of a hinge wing is folded over. The center screw will secure the piece without welding.

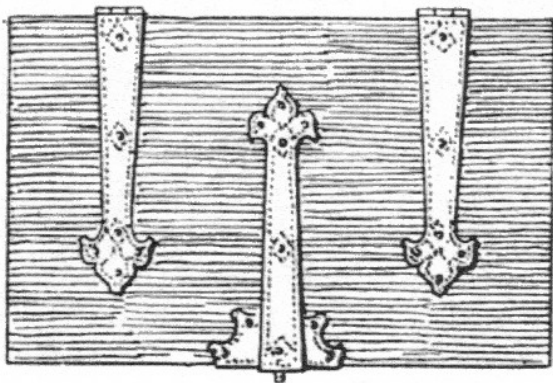




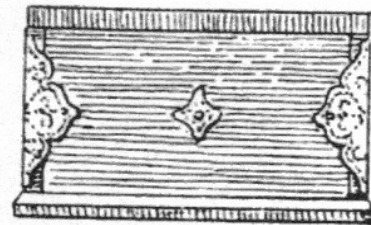
front



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end



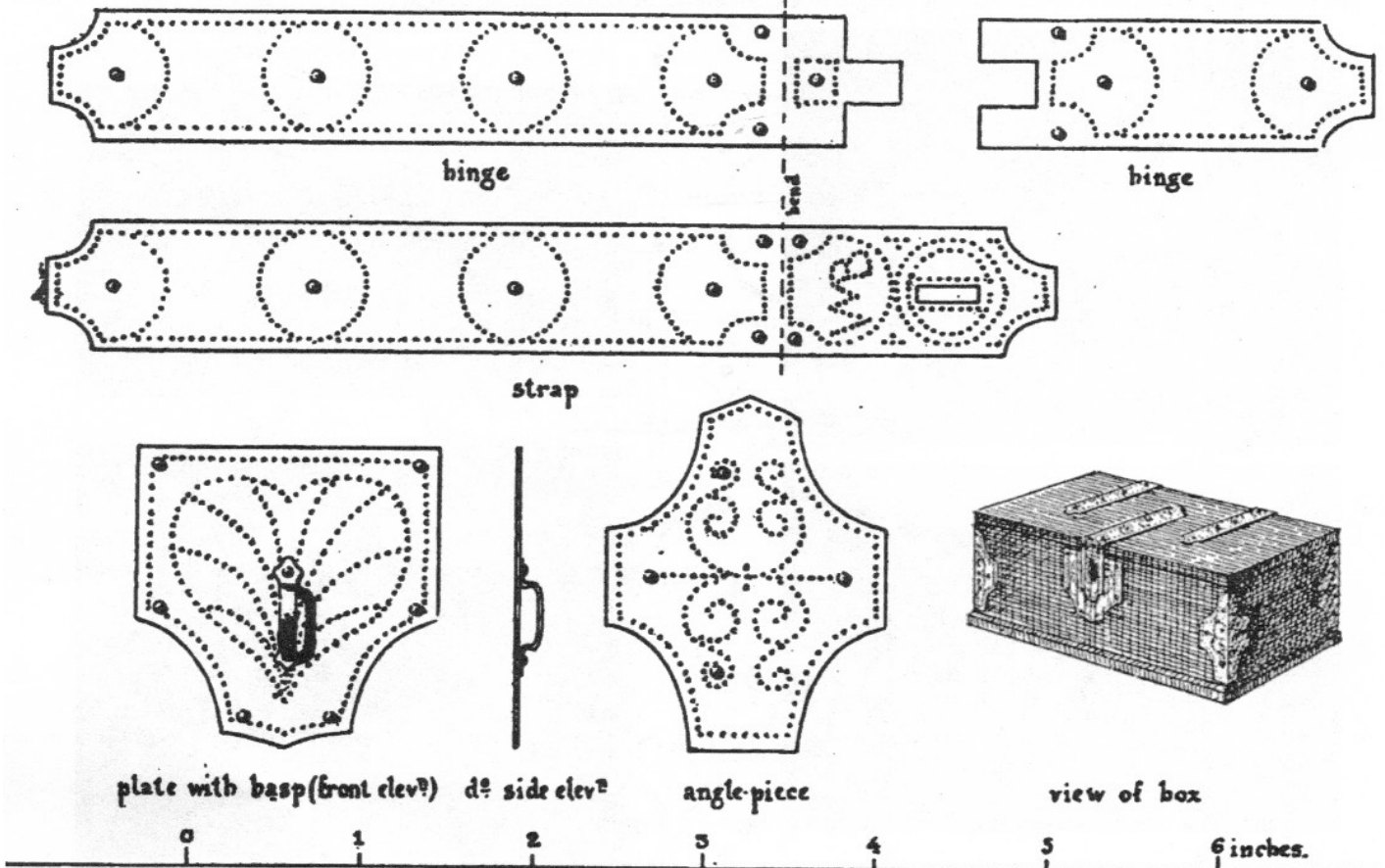
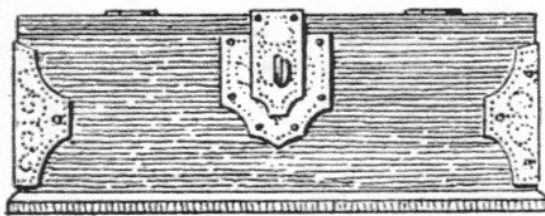
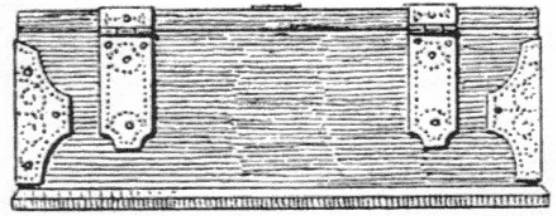


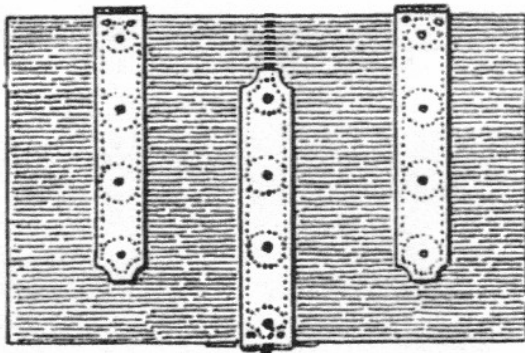
FIG. 27.



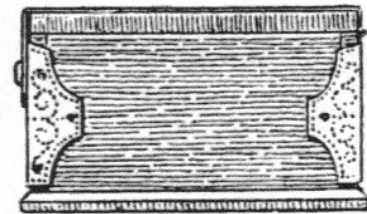
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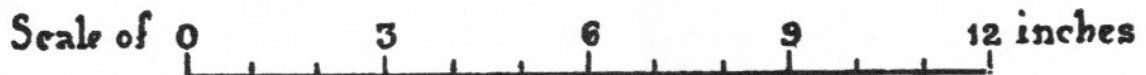
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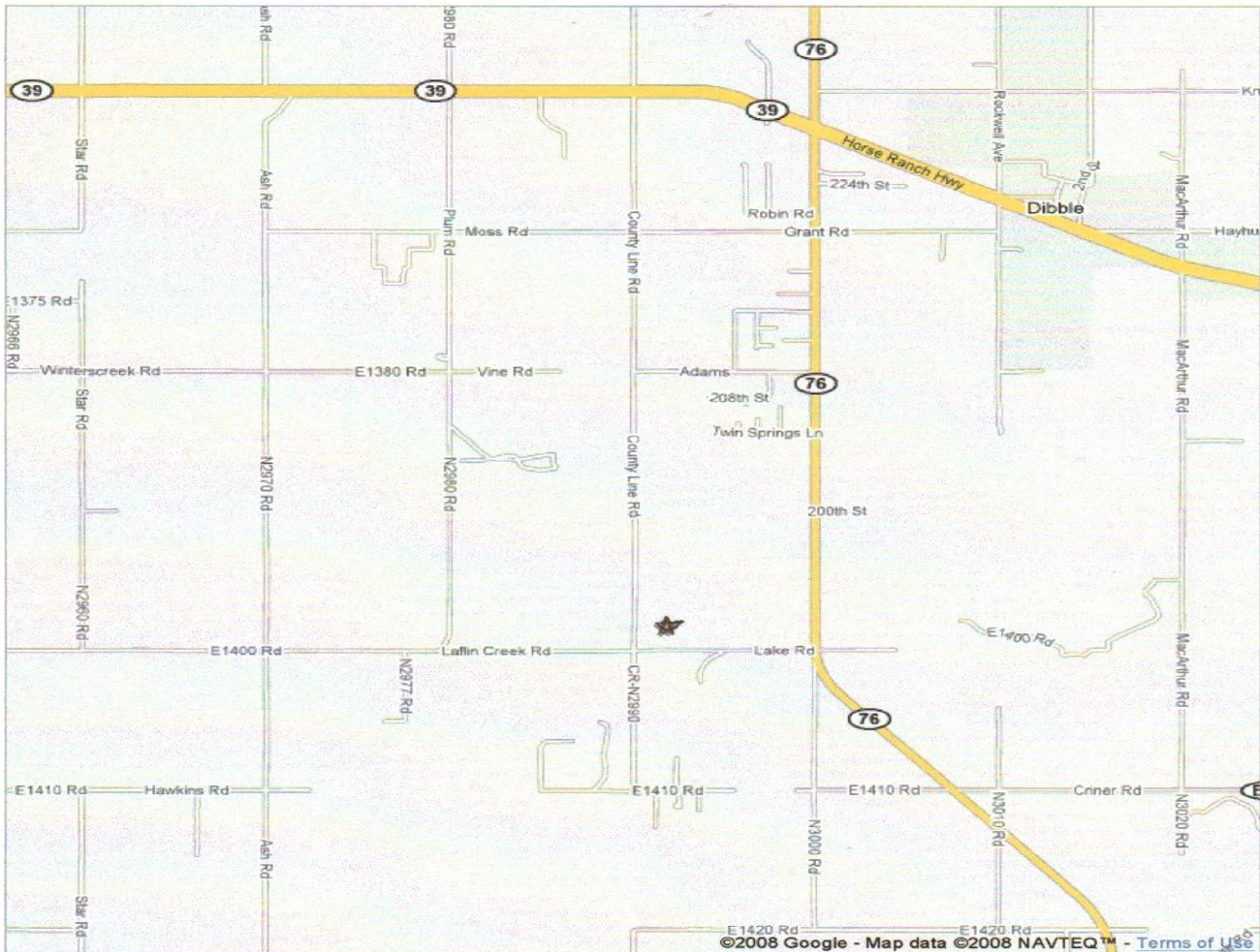
top



end



Map Page



Directions To Richard Simpson - From 38 and 76 junction:
go South 4 1/2 miles (190th) turn and go 1 mile west -
Turn North (Right) about 200 yards turn into 1st drive
on EAST Side of Road - Watch for signs - House has
a cow skull with "19046" Painted on it.
Call Richard if you get lost. 405-344-7413

The NW Regional meeting is hosted by Gary Seigrist at the Route 66 museum in Elk City. Lunch is provided. There are several forges available inside so the burn ban should not have any affect on the meeting. Now the 100+ temperatures might be a different deal. No mention of a trade item but maybe those attending can have a "made at the meeting swap". The trade item is a voluntary part of the meetings. It is a decision made by the host.

The NE Regional meeting is hosted by Bill Kendall at his shop on Peoria in Tulsa. Bill doesn't provide a lunch but there are several restaurants close by. Again, no mention of a trade item. Contact Bill at 918-742-7836 to see if there is room to set up a propane forge inside the shop.

EIGHT DAYS WITH WHITAKER

BY DANIEL M. NAUMAN

DAN NAUMAN, OF KEWASKIM, WI, SUBMITTED A RESUMÉ OF HIS FORGING EXPERIENCE, AS WELL AS A PROJECT HE DESIGNED AND WISHED TO FORGE, TO FRANCIS WHITAKER IN CARBONDALE, CO. ACCEPTED AS A STUDENT, FRANCIS INVITED HIM TO COME AND LEARN SOME OF THE PROVERBIAL TRICKS OF THE BLACKSMITHING TRADE. THE FOLLOWING COVERS SOME OF THE TECHNIQUES HE LEARNED WHILE SPENDING EIGHT DAYS WITH FRANCIS WHITAKER.



IN JANUARY OF 1990 I took myself to the Colorado Rocky Mountain School (C.R.M.S.) in Cabondale, CO, to study under Francis Whitaker. The school is more of a small town, one and two-story buildings sparsely spread against the backdrop of red cliffs and the omnipresent Mt. Sopris.

Day One: I left Milwaukee by train at noon on Saturday, and was greeted by Francis at the Glenwood Springs train station at 3 p.m. Sunday. Francis wasted no time getting me to a motel and over to the "Francis Whitaker Blacksmithing School." After spending about 30 minutes getting me acquainted with the shop, Francis put me to work.

The shop, which can support six blacksmiths at six well-equipped forges, is spacious, well-lit, and carefully engineered. All tools not used on a regular basis are stored in a separate tool room, so as not to clutter the main shop. All fasteners (including some 25,000 assorted rivets) are also stored in this room in well-marked bins.

The layout table, a heavy sheet of steel plate, rises about 30" above the red earthen floor. This height makes layout easy as everything is within reach when working. To this, as well as the nearby workbench, the ground from the arc welder is permanently fixed. (The ground cable is buried—no cables to trip over.)

Numerous forming tools, such as scroll forms, twisting wrenches, bending forks, etc., are hung on the walls in good order. Also on the walls are several forms and test pieces for study, made by Francis as well as other visiting smiths. Everything was in "tip-top" shape, and Francis' 60-plus years of experiences was evident in the layout of the shop.

After selecting a piece of sheet metal to scribe a scale drawing of my proposed project, I went to work. Every line was scribed into the sheet stock, rather than using chalk or felt-tip markers. Scribe lines more accurately depict the finished product; chalk and markers leave lines too wide for accurate references. I found that what looks good on paper, doesn't necessarily pan out on the metal drawing. Using this actual-size drawing also revealed potential problems which might otherwise have been overlooked. Any lines mistakenly scribed in were "erased" by going over the scribed line with a felt-tip marker.

Day Two: "Write it down!" If I heard Francis say this once, I heard him say it a million times. I quickly learned that this was sound wisdom, especially when making test pieces...and I made lots of test pieces. Always write down the size of the raw stock, as well as the finished size when drawing out, making right angle bends, etc. A center-punch mark in the center of the raw stock is also helpful. I learned not to rely on another smith's measurements as they may not always match your own; he (or she) may swing the hammer differently, producing different results.

My project was a window grill, 24"W x 34 1/4"L, of forged mild steel. After completing the blueprint, we started on the 5/8" square, one-piece frame. The length of the raw bar was determined (after doing a right angle bend test piece) by taking the inside dimension of each side of the frame, and adding half the thickness of the bar for each bend. We then measured and

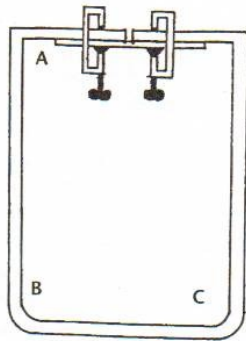


FIG. A

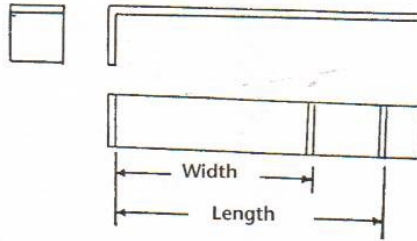


FIG. B

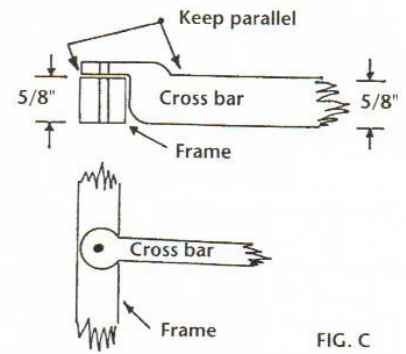


FIG. C

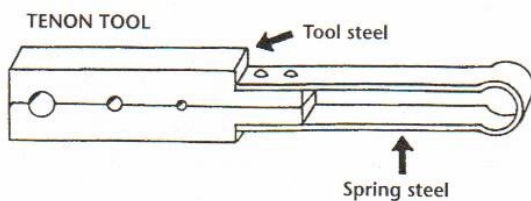


FIG. D

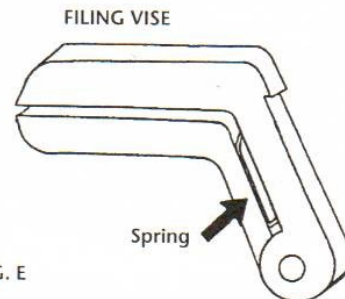


FIG. E

scribed into the bar where each bend was to be, and then center-punched the scribe lines. The ends of the bar were to end up hopefully in the middle of one side (Fig. A). Each end of the bar was upset to prepare for a butt-weld.

A torch was used to concentrate the heat directed at the center-punch marks, rather than heating the area in the forge, which would require quenching to accomplish the same concentrated heat. Note that the angles "A" and "D" were formed and finished to 90° before the finishing angles "B" and "C" (Fig. A). Note also that the frame was clamped before finishing the other angles. To quickly measure the progress of the frame, a simple tool of 3/4" flat stock with a short right angle bend was used (Fig. B). This tool had the inside and the outside dimension of both the length and the width scribed in. Two of the sides fell short of the desired length, which was corrected by heating and drawing out with the flatter.

After the 90° angles were set, the butt-weld came next. (By the way, it came out in the exact center of the top side!) After the weld was completed and smoothed with the flatter, the frame was examined for flatness and adjusted accordingly. It was then placed on the blueprint to check for fit.

Next came the 5/8" x 3/8" horizontal crossbars, which again required making a test piece. They were made to fasten as shown in Fig. C. With this type of joint it is important to make sure the face of the crossbar joint is parallel to the top of the same bar.

Those being completed, the test piece for the 5/8" x 1/4" C-scrolls was made.

Day Three: This day was spent cutting, tapering, and scrolling the 24 C-scrolls. A tip to help in making a nice, even

taper is to lightly grind the ends of the bar stock before drawing out. The scrolls were made utilizing a small scroll form and a bick. A smaller version of the tool (as seen in Fig. B) was used to check the length and the width of the scrolls.

The remainder of day three and all of day four were spent trying to recover from what Francis termed as the "Utes Revenge," which had me at both ends. (Why they had to get even I'll never know. I don't recall ever eating a Ute!)

Day Five: I spent this day was finishing the C-scrolls and making the ten 5/8" x 3/16" vertical bars and the two 5/8" x 3/8" vertical bars, which were to be fastened by the use of tenons at each end. The tenons were roughed by means of a tenon tool used under the trip hammer (Fig. D). I noted that Francis used short pieces of bar stock to measure tenon length, finishing the shoulders with a file. Much of day five was also absorbed by a film crew from Denver's Channel 4 (NBC) recording the lessons from Francis.

Day Six: The project continued by making the two larger C-scrolls (5/8" x 1/4"), the circle (5/8" x 1/4"), and the lattice work (5/8" x 1/8"). The circle stock was determined by use of a rule which has measurements by graduated inch on one side, and the equivalent length needed to make a circle of the same diameter on the other side. (This tool can be purchased through Centaur Forge.) The edges of the stock were taken off, the ends scarfed, then roughed on the horn to a crude circle, and forge-welded. The hoop was then heated to an orange heat and placed over a cone mandrel to make it true.

Making the lattice work was an exercise in believing in myself and Francis' word. I asked whether to drill all the cross

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holes before or after they were installed and secured, just in case the pre-drilled holes did not line up. Francis placed his hand on my shoulder, smiled and said, "Be brave and drill them before assembling," which I proceeded to do by use of a master bar which had the hole alignment pre-drilled. They all fit. Note: Francis' drill press is set up with a direct water tube for lubricating which worked fine and is less mess, too. Water is fed through a 1/8" copper tube, which is easily directed at the hole to be drilled. Note also that Francis has 2', 4' and 6' Lufkin folding rules in his shop which are never folded up. This way the joints remain rigid and never get loose.

Day Seven: Francis walked in this morning donned in a colorful ski outfit to go downhill skiing with some out-of-town visitors. He asked me if I had any questions, gave me my directions for the day, and was off. I proceeded to rough out the acanthus leaves and the rosettes by saw-cutting, and the filing with the use of a filing vise (Fig. E), which mounts in a machinist's vise on the bench. This filing vise makes life a lot easier as you don't have to bend over to see how you're doing. I had never before made acanthus leaves, but with Francis' directions and the models of the leaf in various stages, it seemed like they almost formed themselves. (Since repoussé is quite a complicated process, I am omitting explanation of this stage.)

The rosettes were roughed out of 14-gauge sheet, same as the leaves. They were detailed by veining with a cold chisel, and decorated with a "dimple" from a rounded punch, all the while being backed up with a lead base. The majority of the work performed on the leaves and rosettes was performed cold, occasionally annealing because of work hardening.

Day Eight: This day was one of the most fun—assembly day! Up until this point the frame and the other elements were being held together with bolts, so as to be able to make the various elements fit as they would in the finished product.

The method of assembling was by use of rivets, collars, and tenons. (These methods are discussed in detail in Francis' book *The Blacksmith's Cookbook*). As I stated earlier, the butt-weld in the frame lay right smack in the middle of the top side. I told Francis that one of the holes of the vertical post tenon was go-

ing to be drilled virtually right through the weld. Francis responded by smiling and commenting, "Well, now we'll see just exactly how strong the weld is." (But somehow he didn't seem all that worried.)

I would like to make note here of the coal Francis uses. It is mined locally (thus the city's name—Carbondale) and it is coal dust, not in lump or nugget form. Water is added to this dust to create a stiff paste or "mud." What I found unique is that it burns extremely clean and does not form much of a clinker, the blacksmith's nemesis.

In summing up the week, I walked out of that shop a lot different than when I walked in. I walked out with new knowledge and insight. If I learned anything, it was this: The right tools, good planning, and determination to succeed are essential to doing a quality job—and don't compromise.

One of the things that had held me back from approaching certain jobs was fear of new and different forms. I learned from Francis that this is normal, all part of being a smith, and to expect many projects in the future to also provide new and different problems. Solving these problems takes time, requires patience, good tools, and sometimes requires making a tool for just that one job that may never be used again. Test pieces are made in just about every project Francis approaches. It just goes to show that even though one is a master blacksmith, it doesn't mean there isn't more to learn. So, I now anticipate

and look forward to these new forms and procedures knowing they will broaden my horizons.

By the way, I consider Francis' book a must for any smith at any stage of expertise. Full of 60-plus years of knowledge, techniques, and guidelines, this book was used repeatedly throughout the eight days, and I refer to it often in my shop. Plans for the tenon tool, filing vise, and several other tools are to be found in this book as well.

This article would not be complete without the recognition of the students, faculty, and cooks at the C.R.M.S. All were delightful and made my stay comfortable.

Lastly, Francis' example of sharing his knowledge is just as valuable as his lessons in iron. Bear in mind that we all have our mentors, so why not return the favor and be a mentor for others who are willing to learn and ready to work? ▼

