Saltfork Craftsmen
Artist-Blacksmith Association

April 2010

Cross made from tubing set into a horseshoe. This beautiful combination was made by Tom Nelson.

Saltfork Craftsmen Artist-Blacksmith Association Officers and Directors

President: Gerald Franklin 580-467-8667
Rt. 3 Box 239J, Duncan, Ok 73533
franklin@myrhinomail.com

Vice-President/events: Bill Davis 580-549-6824
23966 NE Wolf Rd
Fletcher, Okla. 73541
lazyassforge@hughes.net

Sec-Treas. Mike George 580-327-5235
1227 4th St. Alva, Ok. 73717
mike-marideth@sbcglobal.net

Director: JC Banks 580-482-3209
16007 S. CR 206 Altus, Ok. 73521
jc.banks@okstate.edu

Director: Byron Doner 405-650-7520
6520 Alameda, Norman Okla.
byrondoner@earthlink.net

Director/swage blocks: Bill Kendall 918-742-7836
1756 E. 59th St Tulsa Ok. 74105
wwkendall@aol.com

Director: Richard Dyer 918-582-5065
1119 S Birmingham Pl. Tulsa, Ok. 74104
irondyer@aol.com

Assignments:

Editor: Diana Davis 580-549-6824
23966 NE Wolf Rd Fletcher, Ok 73541
Diana-copperrose@hughes.net

Librarian/Website
Bill Malsom 918-440-4318
21450 N. 4020 Rd. Bartlesville, Ok 74006
billmalsom@hotmail.com
918-440-4318

Workshop Coordinator
David Seigrist 580-688-3555
dseigrist2004@yahoo.com

The Saltfork Craftsmen Artist-Blacksmith Association, a non-profit organization of amateur and professional artist and craftsmen, publishes this newsletter monthly. Our purposes are the sharing of knowledge, education and to promote a more general appreciation of the fine craftsmanship everywhere. We are a chapter of the Artist-Blacksmith Association of North America.

Visit our Saltfork Craftsmen Website:
www.saltforkcraftsmen.org

Trading Post

For Sale:

Army surplus round nosed pliers that make good scroll pliers for small items. They are 6" long $5.00 each plus shipping. I also tie brooms on your handle or mine. $20.00 plus shipping. Diana Davis 580-549-6824 or Diana-copperrose@hughes.net

50# New Style Little Giant Power hammer. Rebuilt late 2009. $3500 Contact Bill Davis at 580-549-6824

Jim Dickey has a large amount of equipment for sale. A large shop forge, 3'x6' cast iron layout table, hand and power tools. Too many items to list. If you are looking for something give Jim, he might have it or know where you can get it. Call Jim at 580-748-0994

Wanted:

Advertising Coal Hammers, Contact Mike George at 1-580-327-5235or o Mike-Marideth@sbcglobal.net

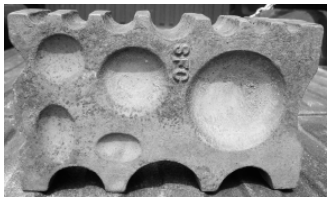
Club Coal

Saltfork Craftsmen has coal for sale. Coal is in 1-2" size pieces The coal is $140.00/ton or .07 /pound to members .**No sales to non-members.**

NW Region coal location:
Bring your own containers. Contact Tom Nelson at 1 -580-862-7691 to make arrangements to pick up a load. **DO NOT CALL AFTER 9 P.M.** If you make arrangement well in advance, Tom can load your truck or trailer with his skid steer loader. Otherwise you will need to bring a shovel. The coal can be weighed out at the Douglas Coop Elevator scales.
NE Region coal location: Dan Cowart also has coal to sell. He can be contacted at ddcowart@gmail.com or CowartPat@gmail.com

Mail your ads to the editor or email them to Diana-copperrose@hughes.net by the 20th or each month.

New shipment of swage blocks now in.
$80. plus shipping to members.
$100.00 plus shipping to non-members
Contact Bill Kendall for more information

MEETING SCHEDULE

April
State Picnic at Norman

May
SE Regional meeting (May 1st) OPEN

NE Regional meeting (May 8th) Hosted by Gerald Brostek the trade item is a yard ornament. Please bring Gas forges only.

S/C Regional meeting (May 15th) Hosted by Gary Seigrist. Trade item is a hardy tool. Lunch provided, bring a side dish/dessert.

NW Regional meeting (May 22nd) Open

June
SE regional meeting (June 5th) Open

NE Regional meeting (June 12th) Hosted by Bill Phillips. Trade items is a animal/bird. Lunch provided but bring a side dish/dessert.

SC Regional meeting (June 19th) Hosted by Byron Doner. Lunch provided but bring a side dish/dessert.

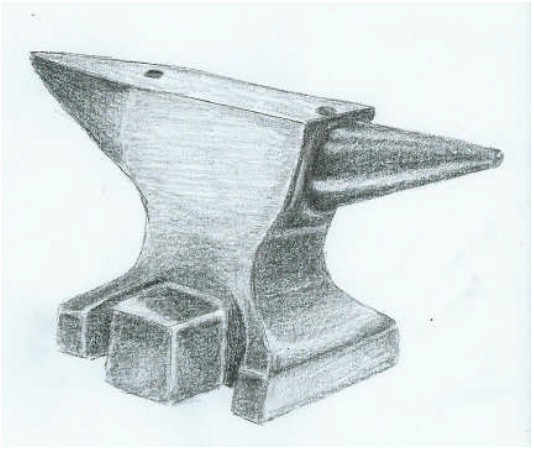
NW Regional meeting (June 26th) Hosted by Ron Lehenbauer in Enid. Trade items is something western.

I would like to give a ***BIG Thank You*** to Dan Cowart for getting the NE Regional meeting calendar fully booked for the year. I can't attend all the meetings in each region, so I need someone who does to encourage members to host meetings. If your region's meeting calendar has open dates, Please help me fill them.
Editor

Obituary notice.

We have lost two more of our member recently.

Ken Lewis of Sapulpa passed away in October (09) and Jack Klutts from Okemah, long time member, passed away earlier this year.



President's Notes

Gerald Franklin

Well, it looks like the weather is finally going to cooperate for the rest of our spring meetings. We had a rough time with some unseasonably late snow events that affected some of the March meetings. Many of us just couldn't bring ourselves to set out in a snowstorm looking at a good chance that we couldn't get home. Hopefully we will have decent weather for our Annual State Meeting and Picnic on April 17th.

The "picnic" will be held at the same place as last year, the Cleveland County Fairgrounds in Norman. This year, we will have a very special event – a Silent Auction Benefit for the Dyer family. As we have reported in the past, Rick and Teresa's son, R.J. is pretty sick and has undergone some extensive surgery. He has more surgery to come and there are always expenses associated with these sorts of things that the family has to cover. Please bring items that you want to donate to the auction to the picnic. If you can't come, please contact me or another board member and we will make arrangements to get your items to the fairgrounds. About anything will work for an auction item but hand forged items seem to sell well as do tools. Don't have time to make something? Just look through your collection of Trade Items or items from past conference auctions that you bought. You'll surely find something that is appropriate. Even if you can't bring an item for the auction, bring your checkbook. This event certainly won't work without buyers. Dig as deep as you can to help a brother smith and his family.

It seems that every month I have a list of reminders for you folks and it looks like this month is no exception:

- **Remember your tongs**. It appears that some of us have neglected to send tongs to the appropriate exchange partner. The Tong Exchange has worked pretty well this year and last year, but it seems that there have been lapses on both years. Please don't put your exchange partner in an uncomfortable situation by having to ASK that you send your tongs.
- **Schedule a meeting**. Diana Davis keeps the calendar to schedule the 2010 regional meetings. She runs this list on a first come, first served basis so if you have a particular date in mind that you would like to schedule, let Diana know.
- **ABANA Conference**. The 2010 ABANA Conference will be held in Memphis in June. This is one of the closest locations to Oklahoma in recent years. Hotels are filling up fast so you need to make your reservations now if you want to sleep close to the event.

Benefit Silent Auction at Annual Picnic…..
Please bring a nice handmade item to be auctioned off at the Annual Picnic with all proceeds to go to the Dyer family to help with medical expenses.

For more information about the picnic check out the Presidents notes and the article about Byron Doner's meeting

More "TO DO's for the days ahead..

Fill out and send in your ballot for the election of board of directors. (Ballot is in last month's newsletter)

Mail in your dues if you have not already done so. *Please fill out a membership form and send it in with your payment*.

If you plan to attend the conference in Perry, Okla in October you might want to go ahead a book a room. You can always cancel if your plans change.

THE MEETING THAT ALMOST WASN'T

By 7:30 AM, I had heard from Ron Lenbauer, Gerald, J.C., and Bill Davis: All of them said they wouldn't be coming due to the weather. "Oh No!!" I thought, "All of my mentors will not be here!" Before 8AM Tony and Carol Cable arrived with a big mess of chili. Tony and I were wondering if any one would show.

There were beautiful snow flurries coming down, and the ground was already covered with snow. Generally the north wind had the snow moving horizontal. Then folks started coming in. Two guys come all the way from McAlister. It looked like we were going to have a meeting after all (snow or not) or snow and all!!

The new building had plenty of room but the heater had given up 2 days before, and it needed a new board. Two gas forges took care of heat. I got on the tractor and moved anvils, vices, tong, etc. to the roomier shop with the help of the guys hooking up chains, loading the bucket and opening and closing doors. I'm not sure, but I think there were 4 candleholders traded. I had failed to load the smoker because I thought nobody would show, so Megan fired up 2 George Foreman Grills and cooked up Polish, Hot Dogs, Hot Links, & Pepperonis. Carol had made Potato Salad, Deviled Eggs and Blueberry Muffins. Two different batches of brownies were brought by members.

So, about 12:30 people started eating. Along about 2pm some started getting a little worried about getting home ok, since the sideways blowing snow had started up again. Allen was the last to leave at about 7pm, *after* he installed the door on the bathroom. Thanks Allen. All in all, it was not too bad of a day.

Thanks to everyone, Korny

THE MEETING THAT ALMOST WASN'T PART 2

The weather kept some away, but when it was lunchtime, we had a houseful! Thanks to everyone that braved the weather. Let's do it again in June!

Mark Vaughn and I discussed what we would each bring to the 3rd annual free Family Picnic being held at the Cleveland County Fairgrounds. We will have hamburgers and hot dogs, salads and desserts. So *PLEASE,* come and have fun!

I'm going to bring an embroidery machine to "play" with. Bring a towel or pillowcase or something you would like to have embroidered. We'll see what all we can do!

If you would like to demonstrate your hobby (or teach it), please call me. (Either at the picnic or the conference). Carol Doner (405)329-5635 cell (405)760-8388

SOUTH CENTRAL MEETING DATES

January 16, 2010
Host: JC Banks
Phone # 580-482-3209
Trade item:

February 20, 2009
Host: Gerald Franklin
Phone #: 580-252-6002
Trade item: a riveted item

March 20, 2010
Host: Byron Doner
Phone #

April 17, 2010
STATE PICNIC NORMAN OK

May 15, 2010
Host: Gary Seigrist
Phone #
Trade item: Hardy tool

June 19, 2010
Host: Byron Doner
Phone #:

July 17, 2010
Host: Alex Scrudder
Phone #: 580-550-0882

August 21, 2010
Host: Terry Jenkins
Phone #:
Trade item: camping tool

Sept. 18, 2010
Host:
Phone #:

October 16-17, 2010
Host: : SCABA Conference Perry, Okla.

November 20, 2010
Host: Bill and Diana Davis
Phone #: 580-549-6824
Trade item: door knocker

December 18 2010
Host:
Phone #:

SOUTH EAST MEETING DATES

January 2, 2010
Host:
Phone #:

February 6 2010
Host: Eddie Horton
Phone #: 580-513-8370

March 6, 2010
Host:
Phone #:

April 3, 2010
State Picnic Month

May 1, 2010
Host:
Phone #

June 5 2010
Host:
Phone #:

July 3, 2010
Host:
Phone #:

August 7, 2010
Host:
Phone #:

Sept. 4, 2010
Host:
Phone

October 2, 2010
Host:
Phone:

November 6, 2010
Host: open
Phone #:

December 4, 2010
Host:
Phone #

NORTH EAST MEETING DATES

January 9, 2010
Host: Gary Gloden
Phone #
Trade item; something made at meeting

February 13, 2010
Host: Bill Kendall
Trade item. A heart

March 13, 2010
Host: Dan Cowart
Trade items: a 4 leaf clover or something

April 10, 2010
STATE PICNIC MONTH

May 8 2010
Host: Gerald Brostek
Phone #: 918-687-1927 trade item; yard ornament

June 12, 2010
Host: Bill Phillips
Phone #:918-823-4224
Trade item: Animal or Bird

July 10, 2010
Host: Gary Gloden
Phone # 918-321-5015 Trade item; cross

August 14, 2010
Host: Omar Reed/ Fort Gibson
Phone# 918-478-4088
Trade item Hinge

Sept. 11, 2010
Host: Dan Cowart/ Pawhuska
Phone #918-440-0653
Trade item: something with a feather

October 9, 2010
Host: State conference
Phone#

November 13, 2010
Host: Clayton Hall
Phone # 918-605-6241
Trade item: Spork/eating utensil

December 11, 2010
Host: Charlie McGee
Phone #: 918-245-7279
Trade item: angel

NORTH WEST MEETING DATES

January 23, 2010
Host: Charlie Todd
Phone# 580-242-0105
Trade item; anything forged

February 27th, 2010
Host: Mandell Greteman
Phone # 580-515-1292
Trade item; tool

March 27, 2010
Host: Mike George
Phone #: 580-327-5235
Trade item; Flower

April 24, 2010
STATE PICNIC MONTH

May 22, 2010
Host:
Phone #
Trade item:

June 26, 2010
Host: Ron Lehenbauer
Phone #:580-758-1126
Trade item; something western

July 24, 2010
Host:
Phone #:

August 28, 2010
Host:
Phone #:

Sept. 25, 2010
Host: Gary Seigrist (Elk city)
Phone #: 580-225-3007
Trade item; something from a horseshoe

October 23, 2010
Host:
Phone #.

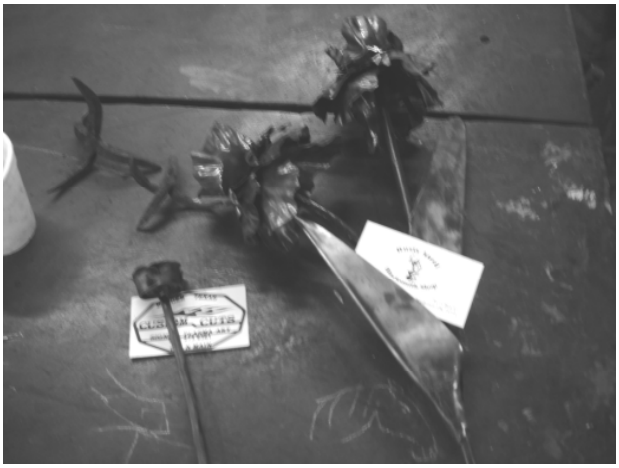
November 27, 2010
Host: Tom Nelson
Phone #: 580-862-7691

December 25, 2010
Merry Christmas

North West Regional meeting…

Another early Spring late Winter day in Oklahoma find this editor on her way to Alva for the NW Regional meeting being hosted by Mike George. In typical Oklahoma style the weather is windy with rain moving into the area by early morning. It takes us approximately 4 hours to get from our house to Alva and we arrive just as the rain is starting.

Mike has the forges going in his shop and there are already several members present. Jim Omey from Freedom, Ron Lehenbauer from Wakomis, Don Gardner from Thomas Oklahoma are just a few of those that came to Alva for the meeting. I counted about 15 that stayed for lunch.



A place to go and something to see….

Subject: FW: The Metal Museum presents Iron: Twenty Ten

The Metal Museum is pleased to announce /*Iron: Twenty Ten*/. With an eye toward the future of a vital art form, Iron: Twenty Ten offers a survey of the finest contemporary blacksmithing in the United States.

Employing both traditional and innovative approaches, the selected work demonstrates the tremendous breadth of ideas and depth of talent found in American blacksmithing today. The work, from an exciting mix of established and emerging artists, was selected by a jury of prominent blacksmiths and scholars, including Anna Fariello, Tom Joyce, Richard Quinnell and James Wallace. The exhibition demonstrates the variety of forms that contemporary blacksmithing can take, including abstract and representational sculpture, vessels, architectural ironwork, furniture, and other functional items. The qualities that unite the exhibition are a commitment to the highest levels of craft and a point of view that is both distinct and contemporary. Taken as a whole, the exhibition offers both the casual viewer and the seasoned metalsmith a comprehensive picture of the state of American blacksmithing today. After opening at the Metal Museum, the exhibition will travel to venues across the United States.

Artists include Elizabeth Brim, Jason Reed Brown, Richard Carr, Paul Cheney, Page Davis, Mary Catherine Floyd, Joshua Goss, Seth Gould, Gary Griffin, Robert Griffith, Adam Hawk, Andrew Hayes, Jeff Holtby, Sean Kingston, Brent Kington, Caleb Kullman, Susan Madacsi, Marc Maiorana, John Medwedeff, Michael Migala, Daniel Miller, Joe Muench, Louise Pezzi, Bill Price, John Rais, Route, George Rousis, Eric Ryser , Lee Sauder, Chris Shea, Jon Shearin, Rick Smith, Doug Wilson, Tessa Wittman, Stephen Yusko and John Yust.

Founded in 1976, the National Ornamental Metal Museum is the only Museum in the Americas dedicated to the preservation and advancement of the art and craft of fine metalwork. Located at 374 Metal Museum Drive, the Museum is open Tuesday - Saturday, 10 am - 5 pm and Sunday, noon - 5 pm. For more information, call 901-774-6380 or visit www.metalmuseum.org.

Joel Parsons
Curatorial and Marketing Assistant
The Metal Museum
374 Metal Museum Drive
Memphis, TN 38102-1539

The Knife Group Association of Oklahoma

Shop tour for May 8, 2010

The Knife Group Association of Oklahoma will be having their spring shop tour at the home of Ray Kirk in Tahlequah, OK. Members and guests are all invited to attend and share some time and stories.

The shop tour will start at 10:00 AM and last till 4:00 PM with a break for lunch at noon.

Demonstrators will be:

Mike Miller will do a pin press demo to show how he presses the pins on guards and bolsters..

John Martin will show how to inlay pearl into a handle using a small piece of ebony.

Ray Kirk will do a forging of a crawdad gig using a car spring for material.

Billy Helton will show how to forge a crushed W's pattern using a tile method.

David Anders will be forging a half penny guard.

Rich Horton will be bringing his old motorcycle with side car for those that may be interested in oldies.

At noon, the main course will be fried fish, furnished by Thomas Kirk and Jason Little of Sixshooter Marina. Attendees can bring a side dish or dessert.

Please let me know if you plan to attend. I will need a head count to prepare the food.

Remember that we will be having "Iron In the Hat" so bring something that you would like to donate for that. It can be something you made, supplies, or something you don't need anymore.

There will also be tail gate sales for those that would like to sell or trade for supplies or other goods and equipment.

After the shop tour, there will be a short business meeting to discuss the next shop tour and our upcoming show being held in Tulsa.

Contact Ray Kirk at 918-207-8076 during the day and at 918-456-1519 in the evening. The directions to the shop tour are; One mile north of Keys, OK, turn right on Horseshoe Bend Road. Go 1.1 miles and turn Right on narrow gravel road. Go 4/10ths of mile and turn left into driveway. If you have extra chairs, it may be a good idea to bring them. There should be a very good turn out if the weather is nice to us. If not, we do have several areas under roof in case of rain.

Ray Kirk

KGA Sec/Treas.

The following forging items are reprinted for the Hammer's Blow which is an official publication of ABANA to get more of these articles you should join ABANA. You will find a membership form in the back of this newsletter along with your renewal form for

Forging Two-Sided Shoulders

By Jay Close and the CHF Committee

Photos by Jane Gulden and Jay Close

Charleston, South Carolina

Lesson #26B.

Part Two: Forging Two-sided Shoulders on the Far Edge of the Anvil

Editors Note: In the last issue of the Hammer's Blow, *the first part of this lesson was published with an incorrect headline. The editor regrets the error.*

Intent: The student will learn to forge two-sided shoulders on the far, rounded edge of the anvil, using only the forging hammer to control the location and dimension of the shoulders.

Introduction: Forging two-sided shoulders on the far edge of the anvil is challenging. Where the hammer is being placed on the work is often obscured by the hammer head itself and one must hold the bar at an increasing angle to the anvil face as the shouldering progresses. Figure 2 below shows the desired final form: an approximate square of material centered on a tapered "neck." While the sketch below includes suggested dimensions, as in the previous exercise, controlling the form is more important than meeting a set of prescribed measurements.

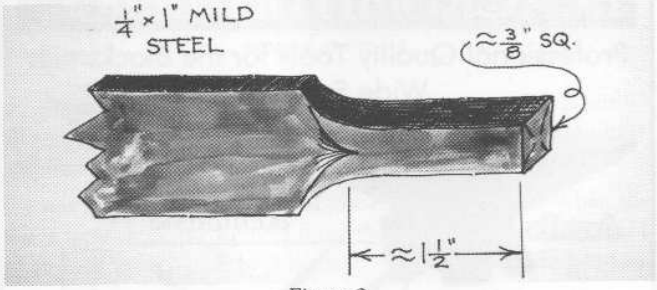


Figure 2.

As in the earlier exercise, smiths tend to be partial to a particular stance and presentation of the workpiece to the hammer and anvil. Either can be effective.

Tools Needed:

Basic forging tools only. See references in Part One concerning the general forging hammer, its selection and shape, and anvil set up.

Material:

1/4" x 1" mild steel, cut to approximately 24" in length (or any convenient hand-holding size). A shorter length held in well-fitting tongs is also acceptable.

Step #1

Heat two or three inches of the end of the bar to a yellow or lightly sparking heat. Place the flat of the heated bar on the anvil in an area with a rounded edge. A square of material 1-inch by 1-inch should project off the far edge of the anvil surface (See Photo 20).

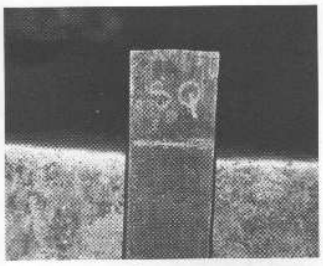


Photo 20.

Keep the bar horizontal as you rotate it on edge. Shift neither forward nor back. One inch of the stock should remain off the anvil as in Photo 21.

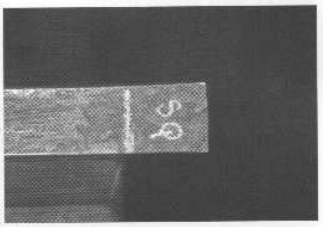


Photo 21.

The first hammer blows must come confidently: three blows, each one progressively closer to the desired alignment with the anvil edge– better to be short of the perfect alignment than hit too far forward.

Depending on which forging stance you decide to use, different parts of the hammer head do most of the shaping of the shoulders. This is parallel to your experience in the first lesson.

After three blows (no more!), rotate the bar so the edge once against the anvil is now uppermost. Reposition the workpiece so that the desired one-inch square of material is still off the anvil as in Photo 22. Adjust the angle of the bar so the just-forged edge is in contact with the anvil face.

Take two or three more blows working up to the edge of the anvil, then rotate the bar and work up to the other shoulder of the bar again. This is the same rhythm, forging and rotating, that you practiced in Part One.

Photo 22.

At an orange heat, the bar goes back in the fire. Working hot minimizes problems.

Note: As the shoulders develop, you must angle the bar on the anvil and cant the hammer into the shoulder. Have the tapered neck fully supported by the anvil at all times.

Step #2

Reheat the bar to a yellow heat and continue to draw down the neck. Hit hard but aim your first hammer blow confidently away from the edge of the anvil. The second and third hammer blow will move progressively closer to accurate alignment with the far rounded edge of the anvil.

Take no more than three hammer blows before rotating the bar, so the edge once against the anvil is now uppermost. Achieve the desired form by successive approximation.

Troubleshooting

Comments made in reference to the first exercise apply here. The sooner a problem is corrected, the better.

Watch for hint of a fold or pucker developing in the neck where it transitions into the square of material on the end. If one should begin, flatten it out before going further.

An off-center mass on the end of the bar (Photo 23) is adjusted by placing the shallow shoulder on the rounded edge of the anvil. Then, apply gentle pulling force to hold the shoulder tight to the anvil edge, and with a sharp blow as shown in Photo 24, drive the mass on center. In effect, you are creating a shearing force focused at the transition where neck meets square to push the square into alignment. The shoulder must be in contact with the edge of the anvil for this to be effective.

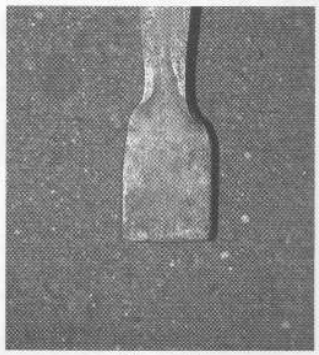


Photo 23.

Shoulders that are different distances from the end of the bar can be improved by positioning the long shoulder as in Photo 25. A hammer blow directed through the diagonal of the bar by striking the upper corner will drive the shoulder forward into better relationship with its partner. Often it helps to cool the corner that is to receive the corrective hammer blow.

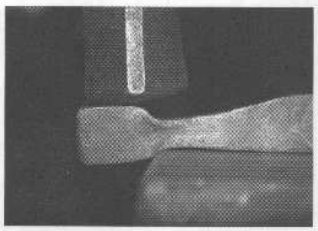


Photo 24.

If the mass on the neck is centered, but the neck itself is not in alignment with the axis of the bar, as in Photo 26, this too can be corrected. At a light orange heat, place the "neck" with the shallower angle uppermost as shown in Photo 27. A single blow should drive it on center.

Photo 25.

Targets

Forge the shape, including all corrections, in four heats.

Work toward a shape resembling Figure Two.

Pay attention to the following points:

1. The neck is evenly tapered, straight sided and centered on the axis of the bar.

2. The neck should be square in section at the point of transition into the square on the end. Expect the neck to grow thicker than the parent bar. This is okay for this exercise and often desirable in a finished forging, too.

3. The square on the end is approximately one inch square.

4. The square on the end is centered on the neck.

5. The shoulders are even depth.

6. The form is straight and without twist.

7. There is little or no hint of a fold along the neck.

Acknowledgments: Thanks to the Controlled Hand Forging Committee for many useful comments on this lesson. Thanks to Jane Gulden for taking a Saturday morning to help with the photography. And thanks to the American College of the Building Arts (www.buildingartscollege.us) for supporting my involvement in this lesson series.

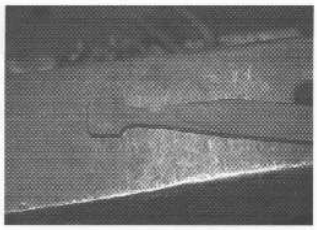


Photo 26.

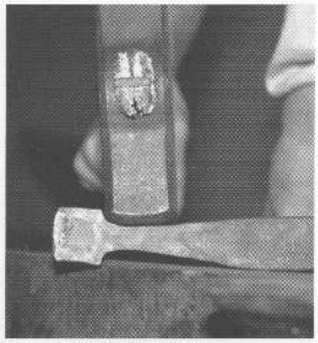


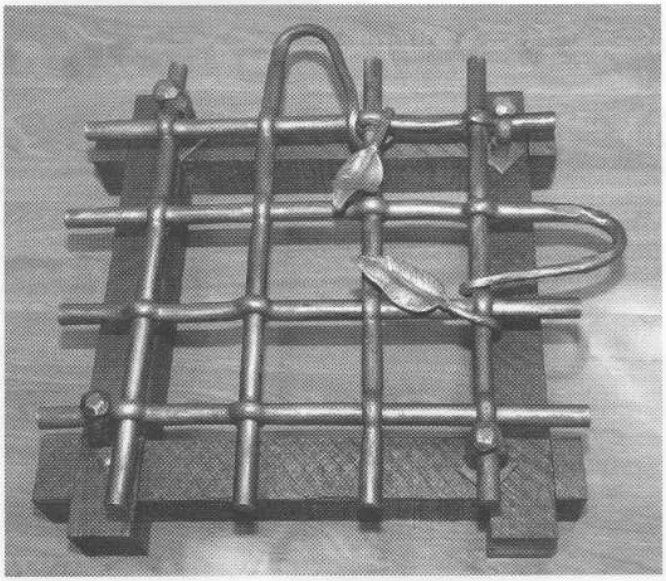
Photo 27.

An Eight-Bar Grille

By H. Kent Hepworth

Powell, Tennessee

During the weekend of November 8 & 9, 2008, Fiddlers Grove Blacksmiths Association served as the host for the 2nd Annual Appalachian Area of Blacksmiths (AACB) Teaching Workshop. Our workshop instructor was Travis Fleming, a full-time blacksmith from Athens, Alabama (Fleming Iron Works, LLC; 722 Commercial Dr.; Athens, AL 35611). Travis chose for the workshop project an eight-bar grille, and it is not an understatement to call this 'a challenging project.'



1. Hepworth's completed 8-bar grille workshop project.

The grille is comprised of eight (8) elements of 3/4" diameter hot-rolled steel pierced in a manner to form an 18" x 18" grille. Sounds simple enough until one recognizes this involves 16 slit and drifted, "accurately" sized and perfectly aligned holes; this translates to 2 holes in each of the grilles 8 elements. Photo #1 is my example of the completed grille project.

The workshop's 8-bar grille project can be divided into three sub-projects:

1) tool fabrication: construction of a slitting chisel and appropriately sized drift;

2) measure location, then slit and drift 16 piercings in the 3/4" hot-rolled steel elements (two holes in each element);

3) straighten, align and adjust spacing of the pierced holes and assemble the grille.

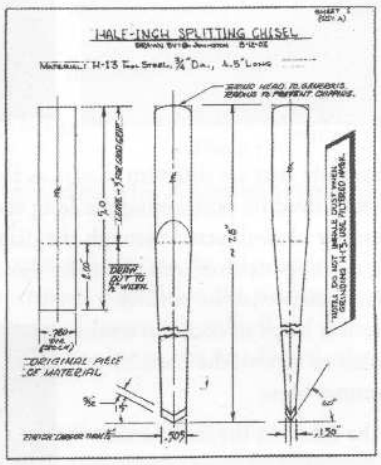
All this sounds easy to the uninitiated and one may ask what are we going to do for the remainder of the weekend; but let me assure you it takes a real concerted effort of an accomplished blacksmith to complete the 8-bar grille project through the assembly step– much less decorate the grille with vines and build mounting hardware and a frame to house the grille.

Fabrication of the Slitting Chisel and Drift for the Grille

Travis gave us two handouts (photos #2 and #3) detailing the shape for the required slitting chisel and drift to punch each of the required 16 holes. The handouts are for: a 1/2" hole-slitting chisel, and a 1/2" round hole drift; however, a little extrapolation to the necessary 3/4" sizes is easily accomplished (what is important is the shape and proportions of the chisel and drift).

Forging a Slitting Chisel

Francis Whitaker's recommended slit width for a 3/4" round hole slit length is 1 1/8" (Round hole slit length: hole diameter plus 40%– Dixon George F.; *A Blacksmith's Craft*, The Legacy of Francis Whitaker, Vol 1; Blue Moon Press; 2004; p55.)

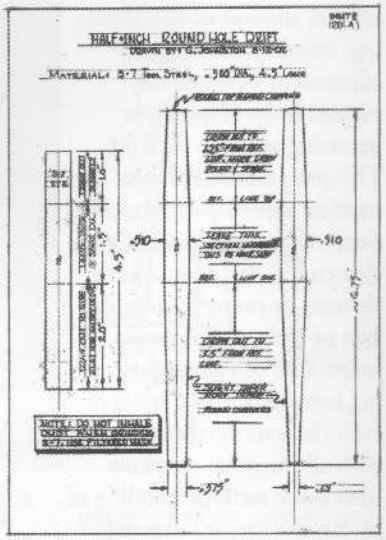


2. Fleming's handout for a 1/2" slitting chisel

Fridolin Wolf recommends the width of the slitter should not exceed the diameter of the stock by more than a factor of 1.3 (i.e., hole diameter plus 30%), for Wolf argues this forces the slit hole to be in tight contact with the drift, resulting in exact hole dimensions (Wolf, Fridolin; *The ABCs of Blacksmithing*; Blue Moon Press; 2006; p46). My slitting chisel was finished to a width of 0.975" (Factor = 0.975/0.75 = 1.3) and all my pierced holes were satisfactory. The desirable tool steel for a slitting chisel is AISI H13; however, for this workshop we used reclaimed coil spring steel (often 'old coil springs' are SAE 6150 steel). After forging the slitting chisel tool to its general shape, it was heat-treated by heating the chisel to slightly greater temperature than the non-magnetic point, then immediately quenching the chisel's tip in peanut oil, which was the quench oil used at Fiddlers Grove)

Note: 1) If you are using AISI S7 or H13 as your chisel and/or drift steel, then air quench; and for thicknesses greater than 3/4", it is advised to use a fan to agitate the air around these tools while cooling; 2) normally it is not necessary to temper air hardening steels for smaller tool (like chisels and drifts).

Fabricating the Drift



3. Fleming's handout for a 1/2" drift.

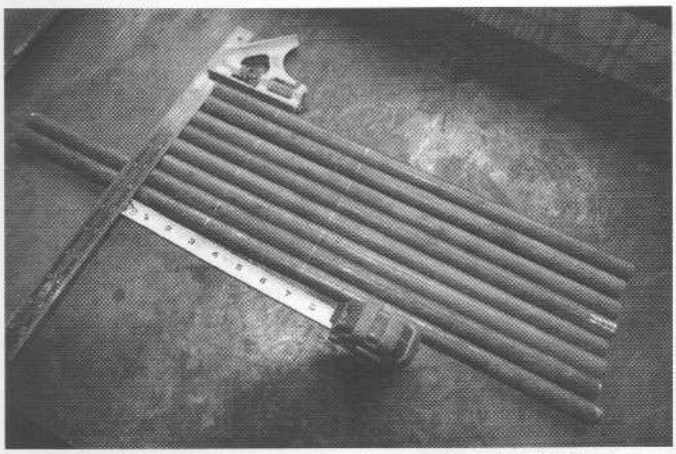
Drift design protocol recommends the drift's diameter as approximately 2% larger than the desired finished pierced-hole diameter. This additional diameter is due to two factors: 1) needed clearance; and, 2) to account for the hole being slit and drifted hot, then shrinking as it cools. The material of choice for a drift is S7; however, the drift material selected is not as critical as for the slitting chisel if one is only punching a limited number of holes with their "custom" drift (20 holes is considered below the limiting number). For our workshop drift material we used standard hot-rolled steel for our 3/4" round pierced hole drift. We upset our drift slightly to obtain the desired ~2% larger bulge (don't overdo your upset!). My drift's diameter is 0.761" (Factor = 0.761/0.75 = 1.015). After the slit and drifted pierced hole has cooled, it is advisable to drive the drift through the pierced hole cold to insure adequate clearance.

A major admonition during the slitting or drifting operations is to use a suitable lubricant, such as fine ground coal dust. Also, it is necessary to frequently cool the chisel or drift during the piercing operation by dipping the tool in the water of your slack tub; the major concern is to keep your tools as cool as can be reasonably achieved (i.e., well below 500 degrees F max) and to keep them lubricated!

2) Marking and Piercing 3/4" Holes in the Round Elements

To start the 8-bar grille project, it is necessary to mark and center punch the location for each of the 16 punched holes. There are a total of eight 3/4" round elements to mark. We elected to make two of our elements extra long to give some material to draw out into a vine with a leaf decoration to adorn the grille; hence, we had six 3/4" elements 18" long and two 3/4" elements 23" long. This provides a major decision point: Do you want the vine adornment *near* to the element's punched holes or on the *far* side of the element? If you chose to place the additional length on the far side, then it will be necessary when drawing the vine to leave the leaf's bulge to a diameter not to exceed 3/4" so it can pass through the element's pierced holes. Note: Since I am north of 65 years of age, I elected to leave my extra length near to the pierced hole so I could draw the vine and complete the leaf prior to the grille's assembly. My rationale for this decision is it will require the blacksmith to handle the entire weight of the fully-assembled 8-bar grille during the leaf-forming process (this is not a trivial concern if a blacksmith is working alone).

It is critical to accurately locate and mark the two holes to be punched in each of the eight 3/4" round stock elements. If done accurately and punched with precision, then the alignment and assembly of the grille will be simple; otherwise, it will require additional blacksmithing to make the necessary corrections. The first hole, termed the *near* hole, is located three inches from the end with the second hole, termed the *far* hole, which is four

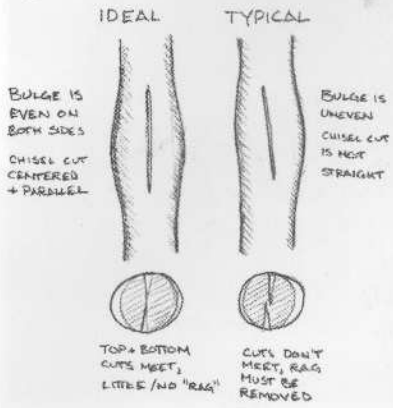


4. Locating and marking the 8 elements for 16 3/4" piercings.

additional inches down the element (note: if you elect for the two 23" long 3/4" elements to be adorned with a drawn vine and leaf near the punched end, then the first hole is nine inches from the 'near' end. The second hole is 4" further down the rod (or 13" from the 'near' end). A combination square is used to first align the ends of the eight 3/4" elements, then to mark the location of all 16 holes to be slit and drifted (see Photo #4). With the elements cold, center punch the marked location of each of the 16 holes so the mark can be readily located when the element is at a forging heat for the slitting process. When the element is heated it can be difficult to locate your center punched mark, so it is recommended you mark it in a clear and distinct manner.

We are now ready for the slitting and drifting forge work. It is highly recommend to frequently wire brush your stock with gusto before starting to do slitting chisel and drift operations. Do not forget to frequently cool and lubricate the slitting chisel and the drift while piercing the elements. Finding your center punch mark is difficult when the steel is quite hot; in fact, a good idea is to heat the element to a dull red heat and start the slitting chisel to firmly locate the pierced hole. It takes some practice to keep the chisel perfectly straight and oriented properly along the element's axis during the slitting process. The recommended procedure for slitting is: 1) Start slitting using lighter blows until the chisel's penetration is sufficient to assure it is properly oriented and straight, then use decisive blows until the penetration is about one-third through. 2) Turn your stock over, and where the round element rested on the anvil, there will be a small oval-shaped flat spot directly opposite your initial chisel work. Center your chisel in this oval and again start with light blows to get

proper chisel alignment, then proceed with decisive blows until about one-third through. Roll the element over to your initial chisel piercing and decisively hammer the chisel until it is at approximately the depth to intersect the opposite side's piercing. 3) Look at the opposite side to see if the pierced holes line up. If they do, you 'did good,' if not then look for the misalignment bulge and from this opposite side align your chisel on the bulge and pierce on through to the chisel's width (see Photo #5). If you required this correction, there will be a small amount of 'rag steel' to be removed with a small chisel or file.



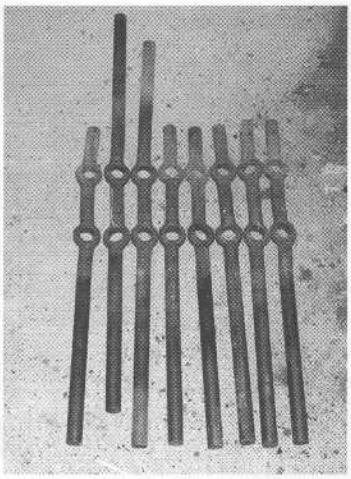
5. Common slitting problems... always remove any steel "rag" left in the center of the hole.

Once the slitting/chiseling operation is completed and any rag has been properly disposed of, then the drifting operation can proceed. This operation is fairly straightforward if the wall thickness of each side of the chiseled hole are similar and the element's pierced walls are uniformly heated. However, if the chiseling operation resulted in one wall being thinner than the other, not all is lost. A simple correction may allow this malady to be fixed. Simply place the uniformly heated bar over the slack tub and use water to cool the thinner wall to a reasonably lower temperature and proceed with the drifting operation. If there is a trick to the drifting operation, it is to drive the drift from one side of an element to approximately two-thirds of the distance of the drift's working length. Remove the drift, cool it in the slack tub, re-lubricate the drift, then complete the drifting operation; however, this time driving the drift through the element's opposite side. I found that after the element has cooled to nearly room temperature it is a good idea to drive the drift through the pierced hole again to insure a good round hole with adequate clearance.

All that remains is to slit and drift the remaining 15 piercings. In my case, I just completed piercing my 16th hole when it was time to clean up the Fiddlers Grove facility and head back home to my little blacksmithing shop to complete the remaining operations required to complete the 8-bar grille AACB workshop project. Photo #6 is of my 8 pierced elements just waiting to be transported back home to be assembled into an 8-bar grille (note: one of the long elements should have been flipped lengthwise for proper element orientation).

Straightening, Alignment and Hole Spacing Adjustment of the 8-Bar Grille Elements

In a perfect blacksmithing world it would be a trivial task to properly orient the elements and slide them in place. However, I am an imperfect blacksmith and my elements will require a substantial amount of straightening, twisting and length adjustment between the pierced holes (drawing or upsetting as fit-up dictate). This pre-assembly process requires three separate operations: 1) Straightening of each element; 2) Twisting of each element to properly align the axes of each of the pierced holes; and, 3) Adjust the spacing between the two holes of each element to correspond with all the other elements (this is the most demanding of all the element adjustment process).



6. Grille components ready for assembly prep.

Straightening Process

The straightening process is relatively straightforward. It requires a good eye for sighting down each element and an 'alignment bar,' which is a short length (about 4") of 3/4" hot-rolled bar stock. Hole piercing requires good hammer control and a good eye to align the slitting chisel with the axis of the bar and to maintain the chisel's center on the center punch mark while slitting through the 3/4" elements. In many instances your pierced hole alignment may result in an off-center piercing; hence, the element is not sufficiently accurate for assembly of the 8-bar grille assembly.

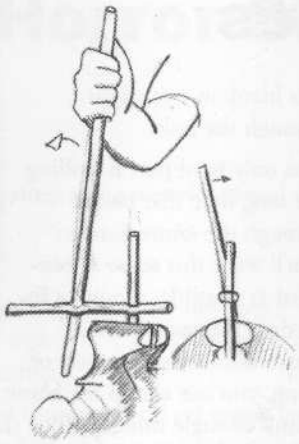
To correct any off-center pierced hole, it is necessary to have a swage block (or anvil with a sufficiently large hardy hole) of sufficient size to allow the alignment bar to slip through the element's pierced hole and lie flat on the swage block (or anvil). To adjust an off-center pierced hole, the alignment bar axis must be adjusted to intersect the 3/4" element's axis. The adjustment process is: 1) Heat the section of the 3/4" element containing the off-center 3/4" pierced hole to a good forging heat; 2) Slide the cold alignment bar through the pierced hole (Note: it is important that the cold alignment bar cool the pierced hole's walls to a black heat so as to minimize distortion of the hole's wall); 3) Place the pierced hole with inserted alignment bar to lie flat on the swage block (or anvil) and oriented so that the high side of the off-center pierced hole is up; 4) Using decisive hammer blows on the high side of the pierced hole, drive the pierced hole down until the axis of the alignment bar and the axis of the 3/4" element coincide (i.e., the 3/4" alignment bar and the 3/4" element are both laying flat on the swage block or anvil). As necessary, center all your pierced holes before proceeding.

Next, it is necessary to make certain the pierced element's axis is truly straight (i.e., the element's axis lies everywhere along its length coincident with a straight line. Remember Francis Whitaker's admonition, "A bar is not straight enough until it is truly straight!" This step is accomplished by sighting down the

bar, then adjusting the bar's bends and crooks until it is straight.

Twisting Alignment Process

Now that all 8 of the 3/4" elements are truly straight, with the axis of each pierced holes' axes intersecting with its element's axis, the next step in the alignment process is to insure the axes of each of the pierced holes lie in the same plane. It is an axiom in geometry that any two intersecting straight lines form a plane. Our job is to insure for each of the eight elements that the planes formed by the axis of each pierced hole and the element's axis are coincident. This is a relatively easy task; as follows: 1) Place a 3/4" hot-rolled rod in a post vise with the bar's axis oriented vertically. Slip the elements 'near' pierced hole over the bar and allow the bar to rest on the post vise jaws with the element's axis parallel with the vise jaws; 2) Slip a second 3/4" twisting bar approximately 24" long (within reason, the longer the twisting bar the better) through the element's 'far' pierced hole; 3) As shown in illustration #7, use the bar as a twisting wrench to twist the pierced bar cold so as to align the axis of the twisting bar with the axis of the bar held in the vise.



7. Alignment of the pierced holes' axes.

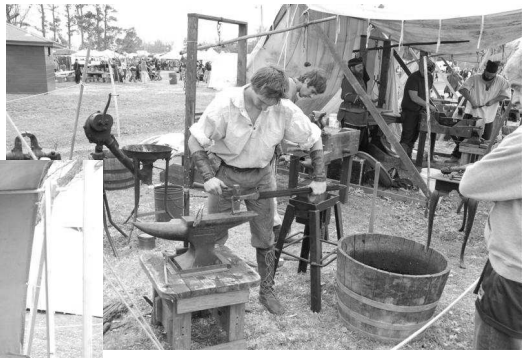
Final fitting and assembly of the grille will be covered in Part Two of this article, appearing in the next issue of The Hammer's Blow. *Kent Hepworth produces instructional videos for blacksmithing organizations including ABANA, Alabama Blacksmithing Assn., Mississippi Forge Council, and the American Bladesmithing Society.*

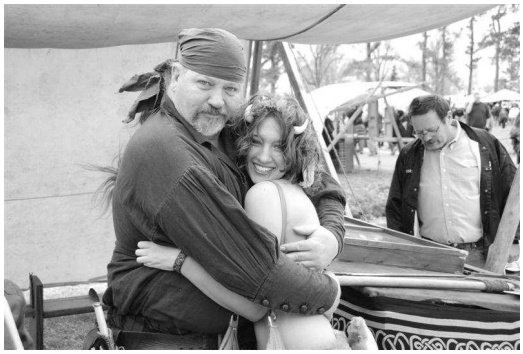
Dues Decrease for Two-Year Sign-ups

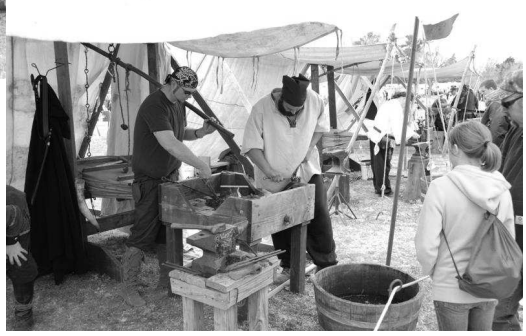
Due to these difficult economic times, ABANA has discounted our rates for two-year memberships. Effective October 1:

2-year Regular membership	$105
2-year Senior membership	$95
2-year Student membership	$85
2-year Foreign membership	$125
2-year Library membership	$85

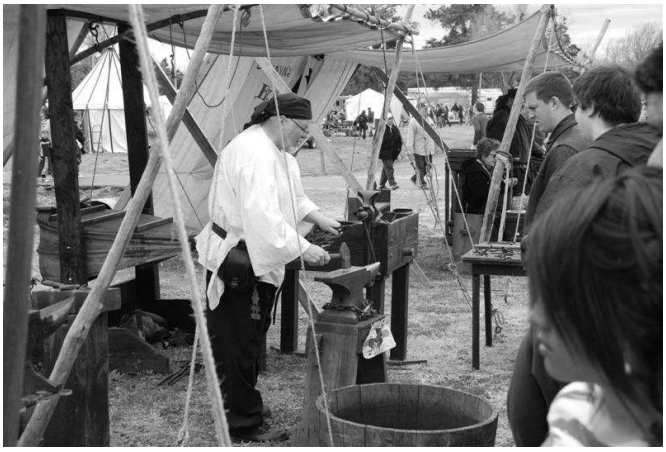
Scenes from the Medieval Fair in Norman

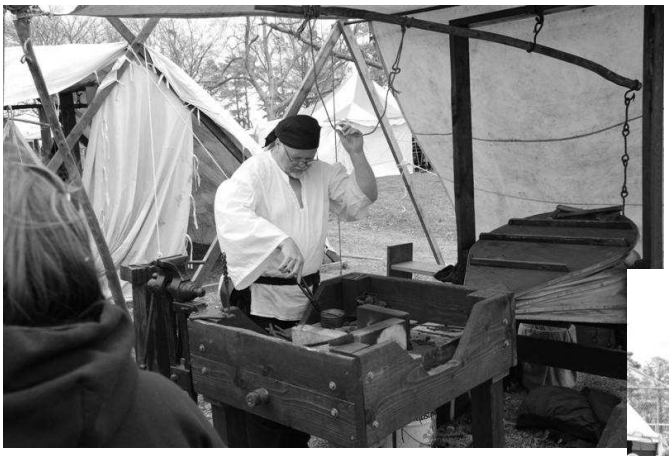






I think Donavan found an interesting way to stay warm while at the fair.





SCABA membership application

April 1 2010—March 31– 2011

Please accept my application Date:_____

First Name _____ Last Name _____

Married? ___ Yes ___ No Spouses Name _____

Address _____

City _____ State _____ ZIP _____

Home Phone (___)_____ Work Phone (___)_____

E-Mail _____ ABANA Member? ___ Yes ___ No

I have enclosed $20.00 for dues to March 30, 2011

Signed_____

Return to: Saltfork Craftsmen, 1227 Fourth St. Alva, Ok 73717

ABANA | NEW & RENEWAL MEMBERSHIPS

Name : _____ Membership ID # _____
(For renewals. Optional but very helpful)

Business Name (optional) : _____

Street : _____

City : _____ State/Prov : _____

Zip/PC : _____ Country : _____

Phone : _____ Fax : _____

E-mail : _____ Website : _____

Membership Type: ☐ New ☐ Renewal

Regular (US, Mexico, Canada)	One Year — ☐ $55	Two Years — ☐ $105
Senior Membership (65+, US, Mexico, Canada,)	One Year — ☐ $50	Two Years — ☐ $95
Full-time Student (US, Mexico, Canada)	One Year — ☐ $45	Two Years — ☐ $85
Foreign	One Year — ☐ $65	Two Years — ☐ $125
Contributory Membership *(amounts above $55 / year may be tax deductible)*	One Year — ☐ $150 and up — $_____	Two Years — ☐ $295 and up — $_____
Public Library (US, Mexico, Canada)	One Year — ☐ $45	
Educational Institution	One Year — ☐ $250	

Mail to: ABANA, 15754 Widewater Drive, Dumfries, VA 22025-1212 USA
Please pay by Check, U.S. Money Order or Credit Card.
You can also join on-line at or by calling 703-680-1632.

www.abana.org

Saltfork Craftsmen Artist Blacksmith Assoc.Inc.
1227 Fourth Street
Alva, Okla. 73717-1227

U.S. POSTAGE PAID
STERLING, OKLA
NONPROFIT
ORGANIZATION
73567

Address Service Requested

SALTFORK CRAFTSMEN