December 2020

THE FORGE FIRE

The Newsletter of the Indiana Blacksmithing Association, Inc.

An Affiliate Of The Artists-Blacksmiths' Association of North America, Inc.

IBA is a Not For Profit Indiana Corporation recognized by the IRS under section 501(c)(3)

9:30 AM is the regular meeting time for IBA Hammer-Ins
with beginner training available at 9:00 AM.
PLEASE MAKE SURE TO ASK FOR HELP!

If you would like an IBA membership application form, please contact Farrel Wells, Membership Secretary (765) 768-6235.

BULK LOTS ARE AVAILABLE TO DEMONSTRATORS,
SHOPS, SHOWS AND OTHERS WILLING TO MAKE THEM AVAILABLE.
WE APPRECIATE YOUR HELP.

More nearby resources and organizations for blacksmiths:

Rural Smiths of Mid-America:
Meetings are on the first Saturday of each month
Call Ron Gill
317-374-8323 for details

IBA MEETING SCHEDULE

Check the latest *Forge Fire* for monthly **IBA** revisions.

No December Hammer In

Check IBA Facebook site for up to date news about hammer ins

Editors Message

I do not have any news to provide. Most organized activities have been postponed, although the different satellite groups maybe meeting.

The message below from ABANA may be if interest to some.

ABANA President's Blacksmith Christmas Tree Challenge

Ending on December 20th and the winner announced on December 23rd.

President, Leigh Morrell, announces the start of the third annual Christmas Tree Challenge. Yes, you can be part of ABANA's annual challenge!! The winner will receive a one-year free ABANA membership or renewal.

This is open to anyone, ABANA member or not. To join the fun, create a blacksmith type Christmas tree, using one's tools and equipment and then:

1) Submit an email to holiday@abana.org with a photo of the tree or
2) Enter HERE a Facebook comment with the photo. ABANA will save all submissions to the photo album 'Christmas Tree Contest 2020' of its Facebook page for everyone's enjoyment.

Creativity Appreciated!! Positivity and Photo Creativity Expressed Cheerfully!!

Previous Winners:
2019 Winner – John Dittmeier
2018 Winner – Mark Yoder

Two More Helpful Tips By Glenn Horr

This foot pedal is hard to pick up with gloves on. I put a handle on it so I can also hang it up. I painted it yellow to better see it, and added a Red Nonskid pad on the top half. (Photo Right:) Here is a tip for clean up. A small roof/tar brush on a handle, you can get in places where you can't with a large floor brush.

Dates to Remember

TBD

IBA Satellite Groups and News

1) Sutton-Terock Memorial Blacksmith Shop
Meet: 2nd Saturday at 9 AM
Contacts: Fred Oden (574) 223-3508
Tim Pearson (574) 298-8595

2) Jennings County Historical Society Blacksmith Shop
Meet: 2nd Saturday at 9 AM
Contact: Ray Sease (812) 522-7722

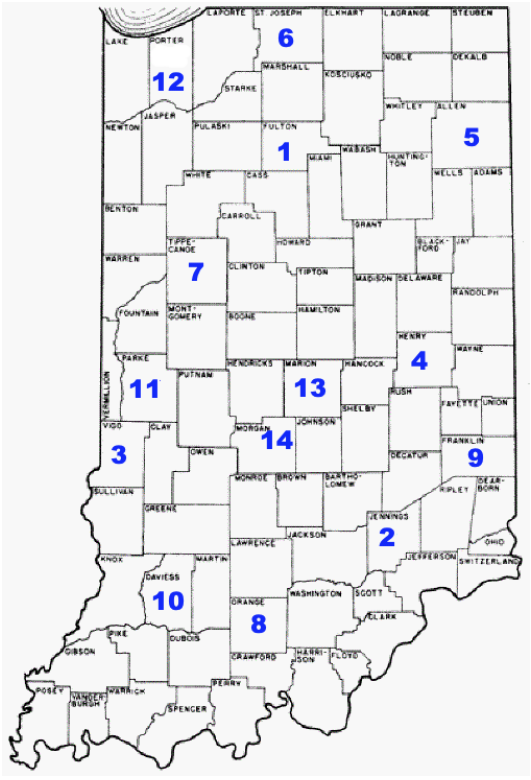
3) Wabash Valley Blacksmith Shop
Meet: 2nd Saturday at 9 AM
Contacts: Doug Moreland (217) 284-3457
Max Hoopengarner (812) 249-8303

4) Fall Creek Blacksmith Shop
Meet: 4th Saturday at 9 AM
Contacts: Gary Phillips (260) 251-4670

5) Maumee Valley Blacksmiths
Meet: 2nd Saturday
Contacts: Clint Casey (260) 627-6270
Mark Thomas (260) 758 2332

6) St. Joe Valley Forgers
Meet: 4th Saturday at 9 AM
Contacts: Bill Conyers (574) 277-8729
John Latowski (574) 344-1730

7) Rocky Forge Blacksmith Guild
Meet: 2nd Saturday at 9 AM
Contacts: Ted Stout (765) 572-2467



8) Meteorite Mashers
Contacts: Mike Mills (812) 633-4273
Steve King (812) 797-0059
Jeff Reinhardt 812-949-7163

9) Whitewater Valley Blacksmiths
Meet: 2nd Saturday
Contact: Keith Hicks (765) 914-6584

10) Bunkum Valley Metalsmiths
Meet: 1st Saturday
Contacts: Jim Malone (812) 725-3311
Terry Byers (812) 275-7150
Carol Baker (317) 809-0314

11) Covered Bridge Blacksmith Guild
Meet: 1st Saturday
Contact: John Bennett (812) 877-7274

12) Snake Road Forge
Meet: 1st Saturday
Contact: Rod Marvel (219) 241-0628

13) Satellite 13
Meet: 4th Saturday
Contact: Darrin Burch (317) 607-3170
Doug Wilson (317) 439-7684

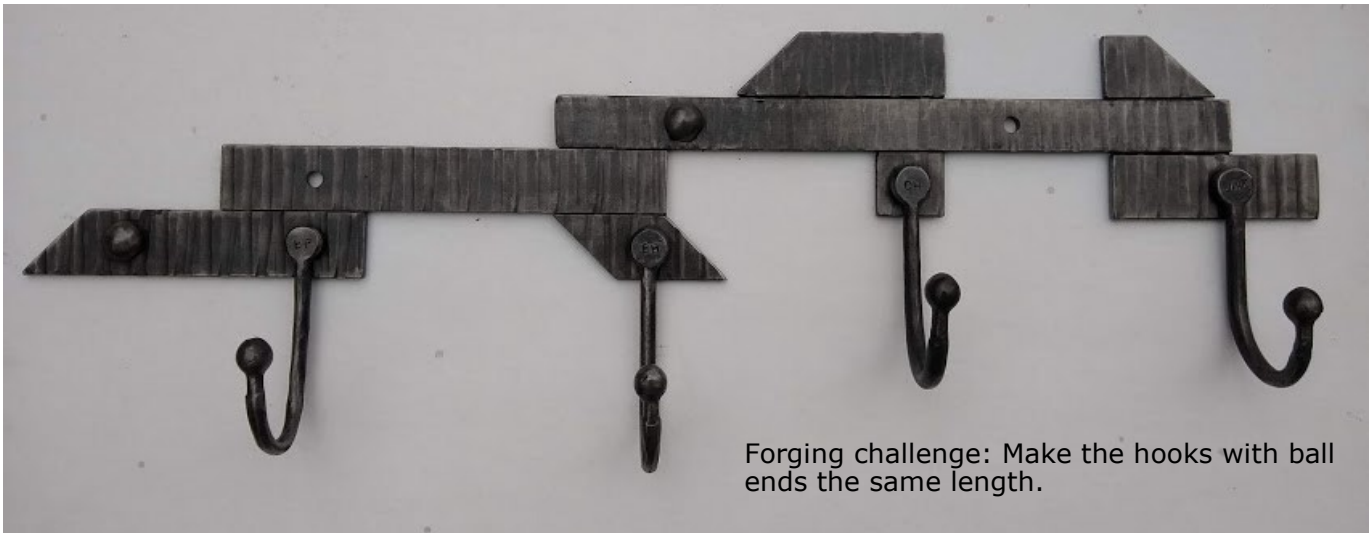
14) Old Town Waverly Blacksmiths
Meet: 2nd Saturday
Contacts: Mike Lyvers (317-728-5771),
Kenny Hale (765-318-3390),
Mike Jackson (317-509-9115).

Jennings County Historical Society Blacksmith Shop

December and January hammer ins are canceled.

Time to Hang It Up! By John Steel and Chris Holt

This article reprinted from the November 2020 edition of the Pittsburgh Area Artist-Blacksmith Association newsletter



Forging challenge: Make the hooks with ball ends the same length.

When a good friend retires from a lifelong stressful job, it is a special occasion. By now, they have accumulated all the "stuff" they need and are on their way to a free and easy lifestyle. It is now "time to hang it up", but also get ready to enjoy more interesting activities. They may just want to grab their hat and go! Make it easy for them with this contemporary city scape, custom coat rack; it is the perfect gift to commemorate the retirement day!

At Steel Welding, we have lots of pieces/parts left over from previous projects. They are just too good to recycle. Check through some of your cutoffs you may have in your shop for similar material. Textured bar works well for this project. This pattern was done on a power hammer using two lengths welded together (back to back) and run cold through drawing dies. You might have hammered material or textured material using a hand hammer, or severely rusted and pitted metal, all will work just fine.

Materials:
Pieces/parts of flat metal bar with texture
Rivets
Round stock for four hooks, we used Allan Kress' 3/4" closed ball dies
Lag screws with decorative heads (we attached rivet heads to lag screws, and ground two slight flat sides for mounting)

How To:
1. Gather your pieces/parts of like material and decide on approximate length of finished coat rack.
2. Mark off 16" Center so you know where you need to place your lag screws for mounting on wall.
3. Layout– Move your parts around, try different combinations until one seems reasonable. Try different lengths next to one another. This hat rack has four hooks, 7" apart on two levels.
4. Add your touchmark, date and year on your work, this makes it much easier than doing it later! Since four people gave this gift, initials were placed on the flattened disc on each hook.
5. When you have achieved a pleasing design, trace around the parts and figure out where hooks will be placed and avoid the mounting lag screw sites, this is important. Walk away, go cut the grass, shovel snow, have lunch, stack firewood for about 45 minutes. Return to shop and revise your design. Do you still like it, is there something that looks "wrong", is something too close together? Adjust.
6. Drill or punch holes in pieces that will hold the lag screws. Drill or punch holes for rivets. Make sure all sections are straight and true. Replace parts on drawing as you work on each piece or you will forget where it goes!
7. Weld together on back.
8. Forge out hooks, makes sure they are of some substance. This coat rack design is a strong statement, you want hooks to look substantial.
9. Attach hooks, apply finish and clear coat.
10. This gift will be used rain, snow or shine….a memorable gift!

It's Easy to Get Hooked! By Glenn Horr

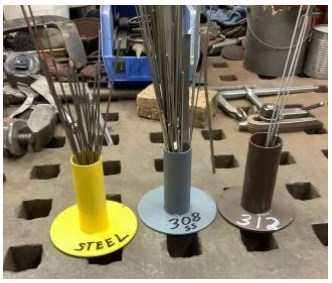
These traditional coat hooks made by Glenn Horr can be a perfect addition to your home or repertoire. Once you make the die, "you will be good to go" for a long time! The die is made from a fork lift tine (possibly 4140). To make the die, heat the material then drive in 5/8" square on the diamond approx-imately 1 1/2" long, and 5/32" deep, grind relief edges. The mass needed to forge is 1" long. For hooks, start with 5/8 round stock, 5 1/2" long. Glenn reduces 2/3 and 1/3 of the 5/8 round material leaving enough metal at the top and bottom for a spring ball die. (Allan Kress makes a wide range of spring dies). This project is also good for those of you that work with wood, a blacksmith/woodworker project!

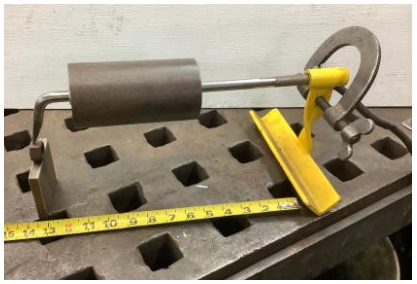
Tool Tip: A favorite grinding disc Glenn uses is a Rhodius Vision Disc. It has notches designed in the disc so you can actually "see" where you are grinding. This is very helpful when you need a delicate touch. In fact, Glenn is a distributor, you can get in touch with him: 304-258-4058

These articles reprinted from the August 2020 edition of the Pittsburgh Area Artist-Blacksmith Association newsletter

Three Welding Tips From Glenn:

1. TIG rods holders. Made from pipe or EMT tube. Note: Each holder is painted a different color.
2. TIG torch holder fits in the table hole.
3. A third hand hold down, also ground cable attached. This is nice to hold small items to weld that may be hard to clamp, etc.





One Ring to Wow Them All
By Steve Alford
Athens, Alabama

The Kuhn Ring Challenge began innocently enough. Travis Fleming sent a picture of an unidentified bit of ironwork to Al Stephens and Ronnie Howard. Al was recovering from shoulder surgery under doctor's orders to take it easy, so he started doing a little research. The picture was from a piece of the Schoner Brunnen Nurnberg, or Beautiful Fountain, in Nuremberg, Germany. The fence was built in 1587 by Andreas Kuhn.

Idle hands... with post-surgical restrictions still in effect, Al started making drawings. "If they could build it, we can too." Interest turned into obsession. Eventually a team of five -Travis Fleming, Ronnie Howard, Dustin Patterson, Saxon Reynolds, and Al Stephens - put in 11 work sessions with 2 to 5 members working 3 to 8 hours per session in Alabama summer heat. That works out to over 200 man hours to complete the ring! Dustin was the chief fire-tender and never burned a piece.

The team fabricated - and fitted together - 15 separate pieces, including 9 rings and 6 straight bars. The straight bars were 3/4 inch square and the interior rings were 5/8 inch round. The outer ring was 1/2 x 1-1/2 inch flat bar. There are 61 pass-throughs in the 3 foot diameter project. The finished ring weighs 75 pounds.

The finished ring was displayed for the first time at the July meeting of Athens Forge. The ring was suspended from the ceiling so it hung at eye level and everyone tried to imagine the assembly sequence and where all the rings were closed!

This project is inspirational.

Ring Element Challenge
by Al Stephens (photos by Steve Alford and Al)

This project started with Travis Fleming sending the original photo below to myself and Ronnie Howard, with the text "This gives me a headache." I was recovering from shoulder surgery, and lots of time on my hands, so I replied "Let me think about it, if they did it, we can do it." Yes, obsession has innocent beginnings.

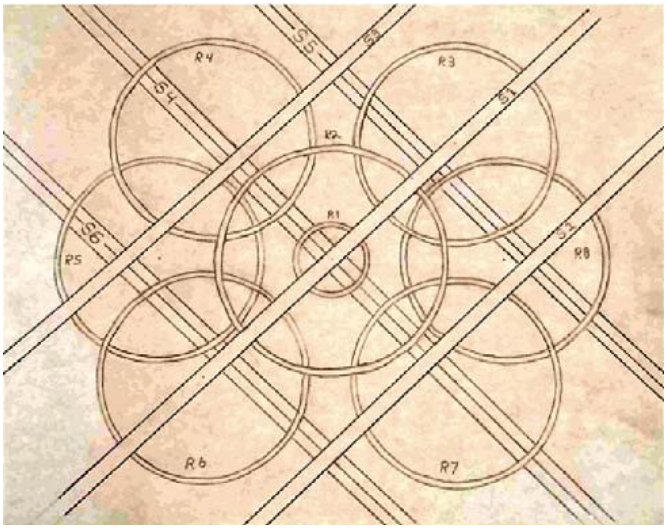
Please note. This will not be a follow steps 1-1,000 and you will have this project completed sort of article. The team has decided to leave the installation details of the various rings for anyone else that accepts the challenge to do in the manner they think will work best.

One of the first things done was the original picture was posted on / Forge Iron, asking if anyone on that world wide forum had any more information about it. Thomas Powers from Texas thought it might be a section of the

Schoner Brunnen Niirnberg. That translates to Beautiful Fountain in Nuremburg Germany. That information led me to pictures of the fountain and fence and an article by Hans Schlosser, http://www.beautifuliron.com/beautiful_fountain.htm

The fence is attributed to locksmith Andreas Kuhn in 1587.

We dissected the original photo by enlarging and breaking it down into individual pieces, noting where there were square holes and round holes and how the individual pieces interacted with each other.
After looking at hundreds of pictures of the fountain and surrounding fence, and using pictures of people in close proximity to the fence, I decided to start the layout based on a 9 inch square. We decided very early in the process that a square would be easier to plan and work around than the diamond pattern. The "Challenge" was produced with material that was at hand, 3/4 inch square, 5/8 inch round, 1/2 inch x 1&1/2 inch flat stock.
A scale drawing was produced starting at the center of the sheet, and the grid pattern was laid out. Again, starting from the center, the various sized rings were drawn, and placed into correct orientation with each other.
On the first scale drawing the outer rings were placed wrong, so the entire drawing had to be scrubbed and started over the next day. This drawing was used throughout the process to check size, hole location, and alignment.
There are 6 square straight bars, and 8 rings made of round stock in the original design. The parts have a total of 61 holes in them, every hole has another piece passing through it. The individual pieces were done in the following order.



S = square stock R = round stock ring

• SI This square bar is on one centerline and has 8 round holes in it and 3 square holes.
• RI Center ring, 2 square holes. Note all interior element rings made from round stock
• R2 Largest ring, 12 round, holes, 2 square, holes.
• S4 This square bar will be on the diagonal in the design, no holes.
• R4&7 The accuracy of your drawing will decide if these two parts are identical. 2 round holes, 2 square holes.
• S2&3 They will ultimately have 4 round holes and 3 square holes each.
• S5&6 These are also on the diagonal and will help hold everything square, but the way we assembled the project, they needed to be slid in and out until inner elements were completely assembled.
• R3&6 They have 2 round holes, 2 square holes.
• R5&8 2 square holes.
• Frame Ring was attached to inner element with blind rivets.

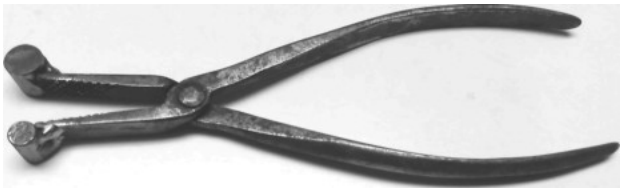
All of the tools used on the project were pretty basic. There were specific size punches and drifts made. A radius jig was made for rings 3-8, since they were all the same diameter. A radius jig was made for the frame ring. We made a "measure ring" marked at 1 inch increments to help locate holes in R3-8. A set of top and bottom tools was made to tighten all intersections after assembly. The team was composed of Travis Fleming, professional blacksmith / welder for 30+ years; Ronnie Howard, machinist, tool and die maker with 30+ years experience; Dustin Patterson, boilermaker, gunsmith, blacksmithing about 18 months (Dustin handled much of the coal fire maintenance and work, and NEVER burned a piece); Saxon Reynolds, college student, chain mail maker and Al Stephens, professional blacksmith 30+ years.

This 2-1/2 page article reprinted from Bituminous Bits ~ Journal of the Alabama Forge Council
JUL/AUG 2018

There were 11 work sessions spent on this project, with anywhere from 2-5 team members and from 3-8 hours per session involved. Individual members spent time on their own making tools.
On a personal note, this project was conceived and completed while I was recovering from yet another shoulder surgery. I was unable, not to mention not permitted, to do very much of the physical work. My participation in it allowed me to fill many hours. Thank you all. If there are any unintentional errors in any of this information the blame is mine, and I apologize for them. The praise goes to the rest of the team.

This 1/2 page article reprinted from Bituminous Bits ~ Journal of the Alabama Forge Council
JUL/AUG 2017

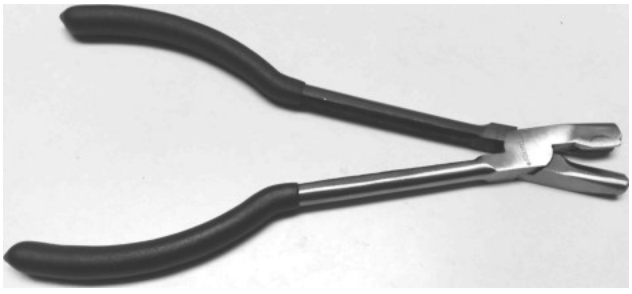
Scrolling (Bending) Pliers
William Kes, Phenix City Forge



These pliers were developed to bend edges of flowers and leaves. They can form either 1/4 inch or 1/2 inch bends and are used perpendicular to the edge instead of parallel like scrolling tongs. I used an old set of duckbill pliers and welded the rods to the ends. A set of 11 inch needle nose pliers from Harbor Freight ($4.00) can be used but they will need to have the end shortened. Having used them for flowers they proved to work easier than scrolling tongs and provide more control and consistency in the bend radius.

Edge Forming Pliers

These pliers are used for forming the edges of flowers or leaves by creating small "V" shapes along the edge. They are faster than forming using a V punch and easy to make. Starting with Harbor Freight needle nose pliers ($4.00), the end is shortened and one side is ground to a V shape. The opposite side is built up with weld and finished filed to shape in the center forming a 60 degree angle.



Portable Folding Hammer and Tong Rack

By Jacob Willson

I don't have a dedicated shop for hot work and I do my forging in the driveway. I wanted a rack that would hold my hammers, tongs, and what I was working on. This rack would also need to be compact for storage when not in use. I wanted to share what I came up with to help anyone else in the same situation or anyone that may like an extra table that folds up when not in use. I built this with materials I had on hand, it has a nice rusty pati-na, so feel free to modify with what you have.

The cross racks or tool holders are ¼" x 1 ½' flat bar, 20" long and the legs are 1" angle, 36" long, making a table height of 30". (Tip - Pythagorean Theorem) The racks have 7/8" holes on each end and one end pivot's on ½" pipe with ½" all thread through bolted to the legs. My original plan was to weld the flat bar to the pipe, but I'm still playing with the spacing and don't think it is really necessary. On the other end of the bars, I cut notches at an angle (see picture) to hold on the other end when in use. For the cross members holding the legs together, I used some rod with threads on the end from an old washing machine, that's why it is 12" deep. You can use all thread or weld bolts to a small piece of pipe, be creative.

To fold up, just pull the end cross members together and either flip the rack over or let them fall down. It folds up and stores pretty compact until it is needed again. It's nice to have all your tools needed for a project organized and readily available. It's portable and allows for easy storage.

This article reprinted from the November-December 2020 newsletter of the Philip Simmons Artist Blacksmith Guild

The Sector
Look Mom no Fractions

By Steve Alling, a MABA member

The Sector is a simple tool that allows you to di-vide a line of any length into any number of equal parts. You can make a polygon in a circle of any number of sides, and if you know either the radius, diameter or circumference of a circle you can find the other two. Simply by using a pair of dividers to perform these measurements; therefore, you don't have to deal with any fractional dimensions.

The sector works on the principal of proportions therefore it can be made in any size that's convenient. The sector is laid out on two arms that are hinged together on one corner. And from the center of the hinge in this sector radiate 3 lines, one line is used to divide a line into equal parts, that line is called the line of lines. There is a second radial line that allows you to make polygon of any number if you know the radius of your circle. It's called the line of polygons. The third line allows you to find two of these three measurements, radius, diameter or circumference if you know one of them. This line is called the line of circles.

There are many other sectors that are used in all kinds of old fashioned pre calculator days and ship navigation, surveying, and art with vanishing points.

There are three sites you can look up on the inter-net to understand this tool.

The first is https://www.burn-heart.com/sector they have a nice tutorial showing you how to use the tool and they offer a workshop to make one.

The second one is https:// www.firstlightworks.co.uk/post/coronasector and they will allow you to download a copy of the sec-tor that they make and sell so you can make your own.

The third site is https://redrosereproductions.com/ sector/ they sell a ready-made metal one for $200.00

I downloaded the free pattern from First Light Works and made up my own sector. The first thing I discovered was you could only find the circumference of a circle about 2 ½ inches in diameter. Because the sector is not accurate when opened beyond 45 degrees.

If you want to make this small sector, I suggest

you cut the pattern out with a razor knife being careful with the inside edge and the hinge edge. I would continue those two lines to the center of the hinge and then you can use that corner on the cor-ner of your board. It's critical that all the sector lines radiate on the hinge pin. So, by lining up that corner you're assured you have them in line. You can then go ahead and do whatever relieving you need to place your hinge. To stick your pattern down there are a couple of ways to do this. There is the spray stick and contact ce-ment but these are going to make it really hard to get things lined up.

There is a neat trick you can do with yellow car-penter's glue. With a squeegee spread a generous layer of glue on your board and allow to completely dry, then carefully place the pattern where it should be, cover part of it with a protective piece of paper and hit it with a hot iron for just a second or two. You don't want the glue to bubble.
Then you can go ahead and move on to the part you have been holding. This will not distort the paper so you get an accurate job.

So, to make a sector large enough to accommodate circles that would be used say in trivets and the like, the sector needs to be much larger, 6 or 7 inch-es in diameter.

Now you clever computer guys probably can take the downloaded pattern and in-crease it's size to what you need. I did it mechani-cally by making a pair of proportion-al dividers. The overall length was 33 ¼ inches and the hinge was 7 3/16 inch from one end. I used some pieces of scrap that were 1 ¼ inch by ¼ inch and I made a saw cut in the end to accommodate finish nails which I epoxied in the slots and then ground to equal lengths and sharpened. This increased the sector to about 32 inches. I made it on two pieces of 1 X 4, the angle of the sector lines is not critical but they must radiate from the center of the hinge. I picked up the dimensions with the small end of the divid-ers al-ways starting in the center of the hinge and transferred them to the new sector lines. This is not a terribly accurate way of doing it but it gets you very close. I approached it the same as the little sector by adding the hinge after all the sector lines were in place.

I'm looking forward to using it in the shop where I won't be straining my brain trying to figure out which little mark on the scale is the one for 32nds.

Reprinted from *The Upsetter* Newsletter of the Michigan Artist Blacksmith Association

Our friend and teacher, Frank Turley has passed away. We had Frank in for a class several years ago, and a good class it was. He taught us hinge, rose petal making along with forge weld-ing. We had a good time and learned a lot from Frank.

Frank started the first modern blacksmith school in this coun-try—Frank liked to brag that it was older than ABA-NA!
Last October 2019, the Turley School received the prestig-ious ABANA Heritage Award for Frank's well-deserved lifetime con-tribution of teaching the art of blacksmith-ing.

For the last three plus years, Parkinson's disease had tak-en its toll on Frank, and he finally had to move into The Taos Living Center for assisted living. The Living center had stayed off COVID-19 till several weeks ago. Frank caught COVID-19 and, combined with the Parkinson's, it took his life.

Frank will be missed

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Indiana Blacksmithing Association, Inc.

Farrel Wells *Membership Secretary*
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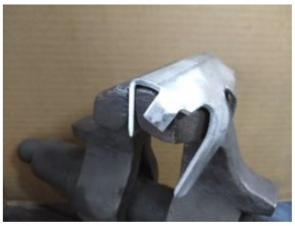

Vise Jaw Liners

Cut out pattern and trace on aluminum or copper plate, make two, a right and left. Fit on your vise to protect work from marring when work needs protection. These liners fit a 4" vise, adjust to fit your vise size.
Design by Country Fab!

This pattern is reprinted courtesy of the Pittsburgh Area Artist-Blacksmiths Association newsletter November 2020.