N.J.B.A. Newsletter

NJBA Volume 24, Issue 4 May, 2021

Editorial

The good news is that at the April meeting, the NJBA Board decided to begin reopening NJBA for in -person meets. However, since the crisis is not over, any such meets will be subject to the special COVID-19 rules in the box on this page.

Should the pandemic rage out of hand again -- as might happen if a SARS-CoV-2 variant arises that is not affected by the existing vaccines -- NJBA will reverse this decision and shut down once more. We call upon all NJBA members to observe all precautions and do their part to help to bring this pandemic to an end.

As noted below, Walnford Day is a go. Two Directors have committed to running that demonstration, and don't be surprised if several more Directors show up as well. We're also looking into holding a meet at East Jersey Old Town in September, but we've yet to learn whether that venue will reopen by then.

Now the *bad* news is that the dues holiday for current members is now over, effective June 30, 2021. Your $20 dues are due on July 1. (The dues holiday never applied to new members or to the paper-subscription fee.) Please see the last page of this newsletter for the renewal form and ballot.

Upcoming NJBA Meets

Sun., May 16. Walnford Day

NJBA will demonstrate blacksmithing to the public at Historic Walnford, 62 Walnford Rd, Allentown, NJ 08501. Members are welcome to participate of tjeu first contact NJBA Directors Marshall Bienstock or Tom Santomauro and comply with the new Special COVID-19 Rules. (See p.1.)

Sun., Sept. 5. Hold the Date.

NJBA is planning to hold a picnic and tailgate sale at East Jersey Old Town. Details are pending.

The Dues Holiday is Over

Please renew your membership by July 1, 2021.

Please provide your correct email address, lest you not receive the Newsletter.

If you want a paper copy mailed to you, please provide your correct mailing address and add the $10 subscription fee to your dues.

Please Vote

The ballot is attached to the membership

Special COVID-19 Rules

All attendees at NJBA events ***must***

- be able to prove they are vaccinated
- wear a mask covering mouth and nose,
- observe social distancing by remaining 6 feet apart.

So at *every* NJBA meet you attend.

- Show your photo ID
- Show your COVID-19 Vaccination Record Card (or a photograph thereof)
- Wear a mask,
- Maintain social distance.

You will not be admitted if you fail to follow these rules; you will be required to leave.

Anvil Repair Workshop

The NJBA Board would like to hold another anvil repair workshop this autumn. Price is not yet determined, but will likely be at least $150 per anvil repaired. If interested, please contact NJBA Director Tom Santomauro.

New Jersey Blacksmiths Newsletter

NJBA Board of Directors

Ryan Amos

William Barrett

Marshall Bienstock

Bob Bozzay

Larry Brown

Eric Cuper

David Ennis

Bruce Freeman

Mark Morrow

Bruce Ringier

Thomas Santomauro

Ben Suhaka

Dan Yale

We like to thank those who joined NJBA as Business Members:
Marshall Bienstock

Blacksmith Coal and Coke Available to NJBA Members

NJBA has "nut" coal of good analysis available for purchase by NJBA members at 20¢ per pound, on a bring-your-own-bag and bag-it-yourself, honor-system basis. Plastic bags of at least 3-mil thickness are recommended. Please inquire of NJBA Director Marshall Bienstock for more information and to make payment.

Stroudsburg taps blacksmiths to craft bike racks for borough

From the Pocono Record:

https://www.poconorecord.com/story/news/local/2021/04/23/stroudsburg-installs-locally-crafted-bike-racks-throughout-borough-blacksmith-artisans-of-the-anvil/7349021002/

NJBA's Official Address
NJBA, P.O. Box 224
Farmingdale, NJ 07727-9998

NJBA's Website:
http://www.njblacksmiths.org

NJBA Newsletter:
Will be found on our website (above). Look for "Current Newsletter" and/or "Newsletter Archive."

NJBA's Facebook Page:
https://www.facebook.com/njblacksmiths/

NJBA's IForgeIron subforum:
Scroll down at https://www.iforgeiron.com/.

NJBA's subreddit:
Reddit.com/r/NJBA
You can get a free Reddit account and post questions, links, pictures or whatever here.

Report on the April 12 Board Meeting

In attendance (by phone) were Ben Suhaka, Bruce Freeman, Larry Brown, Marshall Bienstock, Ryan Amos, Tom Santomauro, Dan Yale, and Bob Bozzay.

Picnic and Tailgate Sale. The Board reviewed the plans for the picnic and tailgate sale proposed for East Jersey Old Town, which was cancelled when EJOT closed due to the pandemic. Bob, Bruce and Ryan will follow up.

Crane Rail Anvils. Larry has cut down into rough anvil shapes the crane rail donated by Dan O'Sullivan that purpose. Two are 9 1/2" tip to heel; 2 are 13", all are 5 3/4" tall with 1 1/4" thick web. Marshall and Larry will set out appropriate prices for these anvils.

New Director. Long-time NJBA member, Bob Bozzay, who has run or helped out at numerous events, was unanimously elected to the board.

Reopening. A motion was passed stating that all attendees at events must be able to prove they are vaccinated, must wear a mask covering mouth and nose, and remain 6 feet apart. They will be asked to leave if they do not comply. The Board reserves the option of shutting down again soon should the pandemic not abate.

Holcombe Jimison Farmstead Museum. Ben reports that he is no longer a volunteer at the museum blacksmith shop is no longer being held, due to a theft of tools from the shop and the resultant. An NJBA open forge meet will no longer be held at this venue.

Gas Forge workshop. The Board agreed that NJBA should hold another gas forge workshop, possibly David Hammer's "C forge." www.youtube.com/watch?v=PbvG4vVJqCw

Anvil Repair Workshop. We will consider the possibility for the autumn of this year if we are contacted by interested folks. NJBA Director Tom Santomauro remains the coordinator of this event.

Dues Holiday. The Board ended the dues holiday, effective July 1, 2021.

Open Forge Meets

(**Important**: See the "Rules for Participation in NJBA Hands-On Events" below, and the "Special COVID-19 Rules," on p. 1).

Monday Night Open Forge, Howell, NJ

NJBA Director Marshall Bienstock hosts an open forge meet every Monday evening at 7 PM, except major holidays. (Please call ahead on holidays to make sure the forge will be open.)

Sunday Open Forge, Smithtown, LI, NY

From the beginning of November through the end of April, Ron Grabowski will open his forge in Smithtown, LI, NY, to NJBA members. Please call ahead to confirm and get directions: 631-265-1564. Ronsforge@aol.com

Rules for Participation in NJBA Hands-On Events

These rules apply to workshops, open forge meets, demonstrations with hands-on components, etc.

1. Participation in NJBA-sponsored hands-on events is limited to adults (i.e., 18 years or older). This rule was effected as of December 4, 2016.
   (Note: This policy ***does not apply*** to open forge meets and similar events *that are sponsored or co-sponsored* by youth-oriented organizations such as scouts, 4H groups, schools or other venues.)
2. Workshops are open only to NJBA members, but nonmembers may join by paying dues when they register.
3. All workshop fees are due upon registering. Any materials fee is not refundable. A workshop fee is refundable only if your place in the workshop is filled by another person.
4. If you only want to watch the workshop, the fee is half the listed workshop fee.
5. Workshops are intended for the purpose of teaching certain skills and/or completing certain projects, and are subject to the authority of the workshop leader or instructor. Accordingly (as per a vote of the NJBA Board on Jan. 28, 2018.):
   - The participant shall work *only* on the project at hand and not on any other projects, *without exception*. (Note: Any NJBA member may attend an NJBA open forge meeting to work on his own project.)
   - Every participant will be required to follow the instructions of the workshop leader, especially any instructions pertaining to safety, or he may be ejected.
   - A person who has a history of failure to follow instructions may be refused admission to any workshop, at the sole discretion of the workshop leader.

Rough-Cut Track Anvils Available to NJBA Members

Former NJBA Director Dan O'Sullivan donated some heavy track rail to NJBA for conversion into anvils. NJBA Director Larry Brown torched these to rough anvil shape.

We are now offering these rough-cut anvils to NJBA members for $3/lb. Four such pieces are available:

- =2 ea. ~9.5" long and 28 lb, $84.
- 1 ea. ~13" long and 38 lb, $114.
- 1 ea. ~13" long and 40 lb., $120

Purchases will be cash only. Please contact NJBA Director Marshall Bienstock if interested.

NJBA's Newest Director, Bob Bozzay

Bob Bozzay, one of our most active long-time members, was elected to the NJBA Board at the April Board meeting.

Bob was trained as an engineer and worked as a machine designer for eleven years and as a manufacturing engineer for Johnson & Johnson for over 24 years. He took up blacksmithing as a hobby after completing a beginner's blacksmithing course from Hunterdon County Polytech and an intermediate course from the resident blacksmith at the Red Mill Forge. He was at the opening of the Farley Blacksmith Shop in 2007 at East Jersey Olde Towne. The Museum of Early Trades in Madison and The Township of Monroe have hosted him in the past as well.

Currently Bob is a blacksmith / demonstrator at East Jersey Olde Towne in Piscataway and occasionally at the Red Mill Village Museum in Clinton NJ. He demonstrates 18th and 19th century blacksmithing techniques to children that come through on school tours. He also makes hand forged

Demonstrators Needed

East Jersey Olde Towne in Piscataway NJ is looking for blacksmiths to demonstrate to school groups and the public weekdays and weekends through the fall. The Historic Village is open 8:30 till 4:00 PM and is located in Johnson's Park across River Road from Rutgers's Stadium.

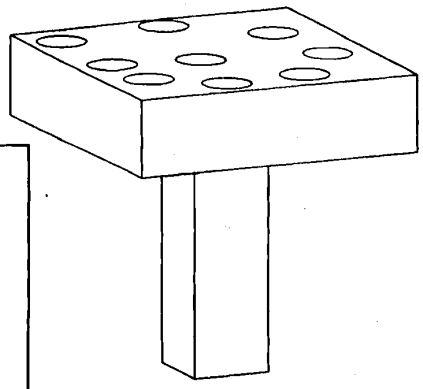
Anyone who is interested can contact Matthew Stroh at EJOT 732.745.3030 Ext 304. More information can be found at http://www.middlesexcountynj.gov/Government/Departments/BDE/Pages/East-Jersey-Olde-Towne-Village.aspx

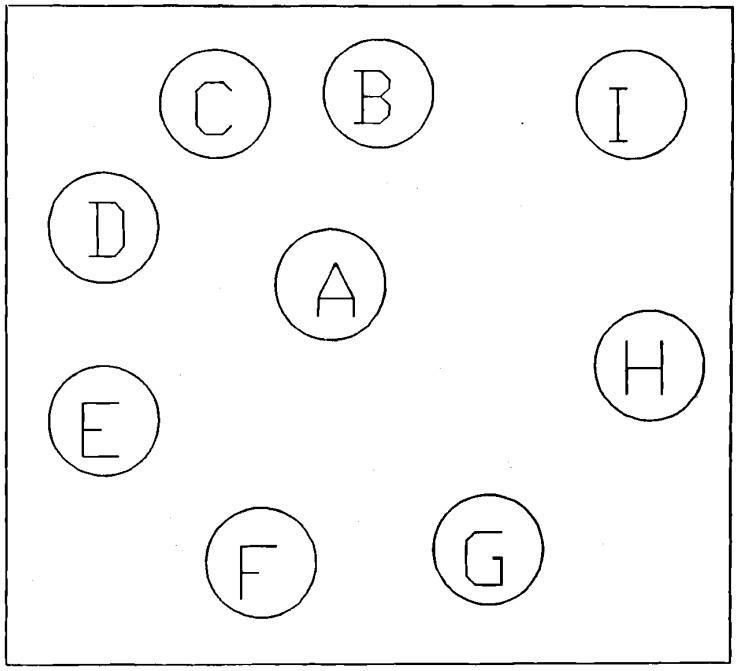
NJBA Director Bob Bozzay (robert.bozzay@gmail.com) currently works there two days a week. He can provide additional information.

"Universal" Bending Fork*

Steve Bloom
IronFlower Forge

If you've ever needed a bending fork but didn't have one of the correct size, you might find this unit useful. In a 4.2" x 3.75" x 1" block of steel, drill 9 5/8" diameter holes following the full-size pattern given below. Weld a length of square stock to the bottom which will fit in the hardy hole of your anvil (remember to bevel the square stock to get a good weld penetration). Cut a pair





of 3" long, 5/8" diameter "pegs". Reduce the diameter on one end of each peg for approximately 1" of length so that the pegs fit in the holes without binding. You now have a bending fork with 36 different spans between the "pegs", running from 0.26 to 2.87 inches (see the table below for the combination of holes which gives each span). If the stock that you're bending is too heavy for this jig, just scale up to 3/4" or 1" pegs. When using this unit, watch out for heat transfer -- those pegs get WARM!

Distance between pegs when inserted into the indicated pair of holes

	A	B	C	D	E	F	G	H
B:	0.50							
C:	0.57	0.27						
D:	0.70	1.11	0.35					
E:	0.87	1.80	1.29	0.47				
F:	1.00	2.13	1.98	1.47	0.58			
G:	1.12	2.04	2.32	2.22	1.68	0.67		
H:	1.25	1.56	2.22	2.58	2.50	1.86	0.77	
I:	1.38	0.82	1.70	2.46	2.87	2.73	2.03	0.86

* another contribution to the 'I've never seen a jig I didn't like' series

The Florida Clinker Breaker, May 1993

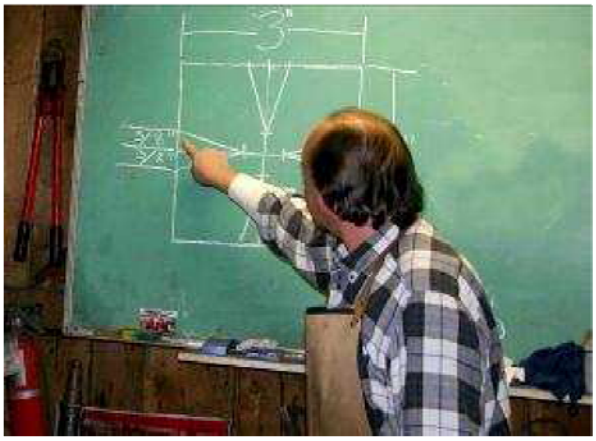
This 2 page article reprinted from- The Blacksmith's Guild of the Potomac, Inc. Jan /Feb 2012

Steve Crist Demonstrates Four-petal Flowers

Bob Dixon Gumm

The BGOP was recently introduced to the art of creating "double" four-petal flowers by Steve Crist. Steve uses the flowers on tables and other items that he creates in his forge, and I think you will agree that the results are stunning. Steve mentioned that he was introduced to the four-petal process by Mike Boone at the Central Virginia Blacksmiths' Guild. Although I view the flowers as double petal dogwood flowers, they can be perceived as any of a number of varieties.

While Steve used three inch blanks for his demonstration, he brought in examples of four inch and other sizes that he created. Steve has purchased blanks in the past, but now makes his own blanks in his shop. Using the three inch pattern for our discussion, Steve begins by crossing the four corners of the square to determine the center. In order to correct any drifting of the center during the forging process, Steve prefers to mark the center with a punch instead of drilling a hole. Next, he drills four holes at 3/8" from the center to act as stop points when cutting the triangles. How does Steve cut the blanks? He has a metal band saw that is set up for cutting steel plate. However, one can also use a hacksaw or a cutting wheel to do the job.



This 2 page article reprinted from- The Blacksmith's Guild of the Potomac, Inc. Jan /Feb 2012

It's time to forge the petals. Steve brings the blank to an orange heat, and with a medium weight cross peen hammer, carefully draws out the edges of the petals. He uses farrier's tongs to hold the blank. He typically gets one petal completed during a single heat, and can begin another petal when things go well. Once he has attained the desired outline and texture of the petals, Steve rounds the petals. He has several hardy swages that he purchased for the project, but noted that a wood block also works. When using hardy swages, it is important to keep them scale-free. One step that he emphasized is that one petal is shaped at a time, and once the petal is complete, the piece is placed on the anvil and the center is tapped down. This makes it easier to bring the piece to the final shape.

Once two pieces are completed, Steve punches a hole in the center for the pistil. The pistils are created using a custom fuller that he manufactured for the job. He mentioned having used mild steel fullers in the past, but found that they lost their definition after numerous heats. Now he uses tool steel, and is very careful to remove scale while he's working. Once the pistil is finished, Steve cuts threads on the stem using a die. BGOP member Bill Wojcik remarked during the demonstration that there are several ways to purchase taps and dies. The least desirable is to purchase multi-piece tap and die sets. Some of them are poorly manufactured, and it is more economical to only buy the tools that you will actually need and use. In the long run, it is better to spend your money on individual high quality parts.

Flower pattern available on page 9-

This 2 page article reprinted from- Appalachian Blacksmiths Association Newsletter, March 2003

Rose Door Knocker
David Fink- Lumpkin, GA

Materials
1. 1/2 x 3/16 x 15 inches
2. 1/2 x 1/2 x 1-3/4 inches plus a tenon
3. 1/2 x 1/2 x 3/8
4. A disc of 18 gauge x 2-1/8 diameter
5. A disc of 18 gauge x 2-3/8
6. A disc of 18 gauge x 2-5/8 diameter
7. A double headed staging nail
8. 2 -8d nails
9. 1/8 x 2 x 10 to 12 inches long

Step One - Flatten one end of #1 to a fan shape keeping taper uniform. (Fig. 1)

Step Two - On the other end of above piece, turn on edge and forge flat to 1/8" thick by 1/2" wide (length unimportant), but flat must be 90 degrees from rest of bar. (Fig. 2) Scroll fan end into spiral and drill. 3/16" hole through the flat on other end.

Step Three - On a piece of 1/2" square (to make #2), forge a 1/4" tenon. Cut off at 1 -3/4" (excluding tenon length). Saw a slot in the end 3/4" deep, heat and spread; forge over 1/8" stock to form Fig. 3.

Step Four - Mark center of #3 and drill a 9/64" hole, (Fig. 4)

Step Five - Mark discs (#'s 4, 5, and 6) in 6 equal segments and drill center with 3/16" hole, Snip or saw to within 1/4" of the hole. Round corners of each segment with snips or files, (Fig. 5)

Step Six - Cut top head from staging nail. Center punch center of scroll made in step two and drill 3/16" hole. Place the nail in the hole, measure for length to cut the nail for use as a rivet. (Fig. 6)

Step Seven - With cuts in the discs staggered, place them on the top part of nail and form rivet head on both ends of the nail, (Fig. 7)

Fig. 1

Fig. 2

Fig. 3

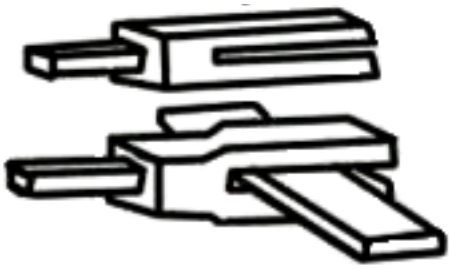


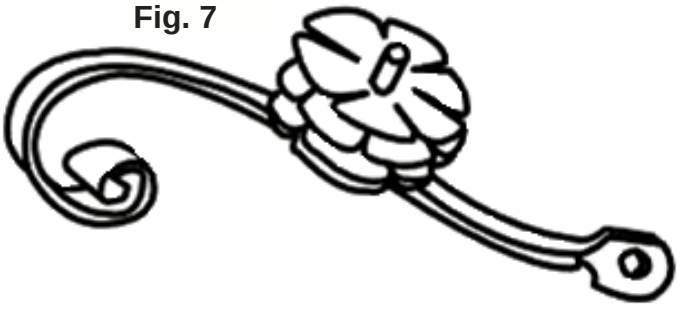
Fig. 4

Fig. 5

Cut 3 pieces

Fig. 6

Fig. 7



This 2 page article reprinted from- Appalachian Blacksmiths Association Newsletter, March 2003

Step Eight – With an acetylene torch or with care in the forge, heat thin discs and bend each petal of the top disc upward with needle nose pliers. Bend each section into a natural, cup-shaped rose petal. Repeat the process with the center, then the lower disc. (Fig. 8)

Step Nine - Check the rivet for tightness.

Step Ten - Lay out a pleasing design on the base plate (Item 3: Fig. 9). Mark. Decorate as desired with hammer texture, engraving, beveling, etc.

Step Eleven - Punch a 1/4" square hole in the backing plate near the center leaving at least the length of the scrolled piece from the hole to the bottom edge of the backing plate. (Fig. 10)

Step Twelve - Take the split and tenoned piece made in step three and rivet it in place on the scroll.

Step Thirteen - Place the scroll on the back plate and mark the point on the scroll where it contacts the back plate. Drill a hole in the scroll at the mark and using an 8d nail with the head on the inside of the scroll, rivet the small block (Item 3) to it.

Step Fourteen - Clamp top of scroll in vise and rivet the tenon in the hole in the back plate.

Step Fifteen - Clean up as necessary with a file and apply finish of your choice.

Fig. 8

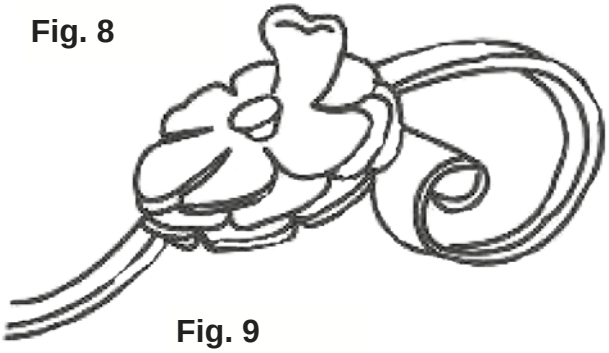


Fig. 9

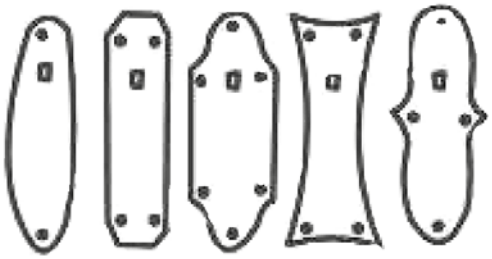
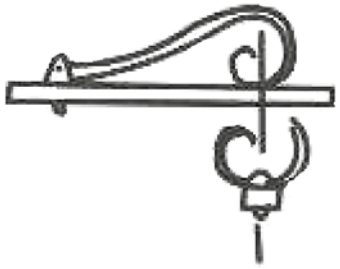
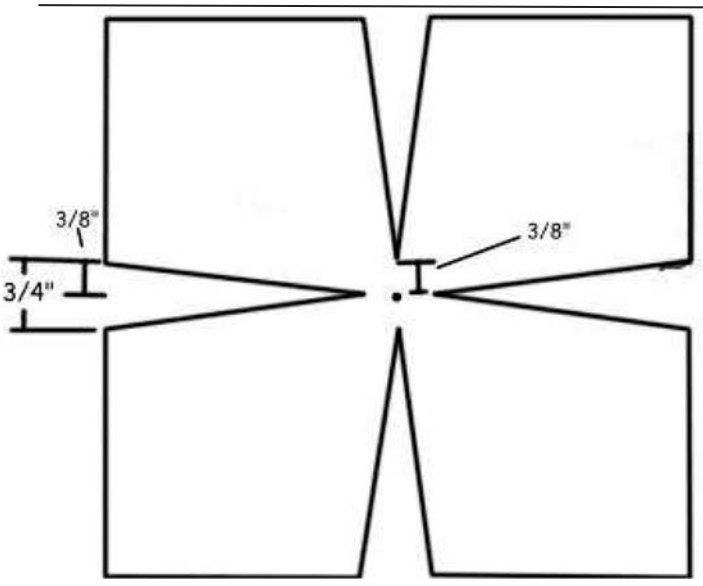


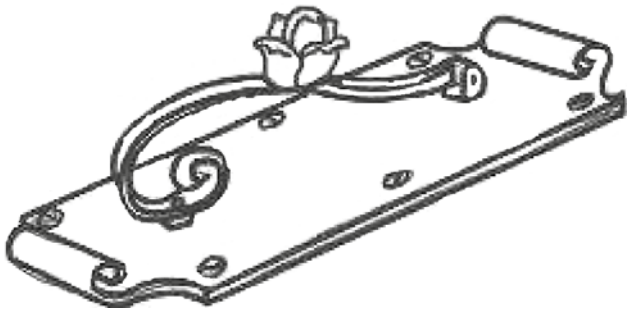
Fig. 10

Fig. 11

Fig. 12







Four-Petal Flower- ***For article on pages 6-7.***
This three inch pattern is provided to help you construct the four petal flowers. For best results, transfer the pattern onto wood or plastic. Be sure to drill a hole at the center of the pattern.

This 2 page article reprinted from- the Clinker Breaker, July 2017

SIZE DOESN'T ALWAYS MATTER
By
Doug Hayes

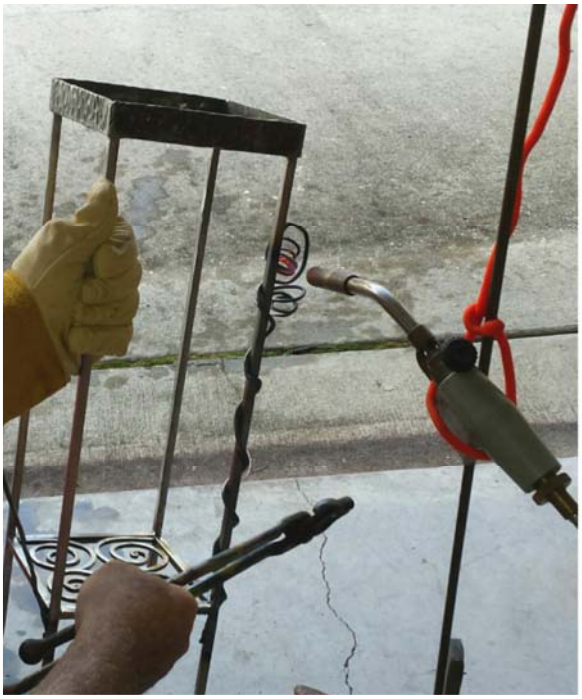
We are all used to having a nice coal forge or multi-burner propane forge and lots of stuff. Well, I live in an HOA (with a 108-page set of covenants) so I can't leave my stuff set up. Any big work and I need to set up my pop up in the morning and tear it back down at night..

Last August I really wanted to do something, but it was hot and I didn't want to set everything up in the heat just to tear down at the end of the day. So I pulled out my little bean can forge (28 ounce) and decided to try and shape some legs for a small table I planned.. That let me work on my small patio in the little patch of shade. Then I decided to add a decorative top edge and then scrolls and then I added a bunch of vines and leaves. I did end up using my Mig welder to tack things together, but all the rest of the hot work for the piece below was done with the two small forges and a Bernzomatic TS8000 torch head. I have used the extension pipe and hose to connect to a 20lb tank, which lets me run full out for three or four days on a single tank. Even though these are small, they will allow me to work on my small back patio, are portable for traveling events (and are a good bit cooler than my regular forges).

So if you are stuck sometime without a full-grown forge, don't let that stop you from thinking small. A small forge can be a big addition to your shop.

This 2 page article reprinted from- the Clinker Breaker, July 2017

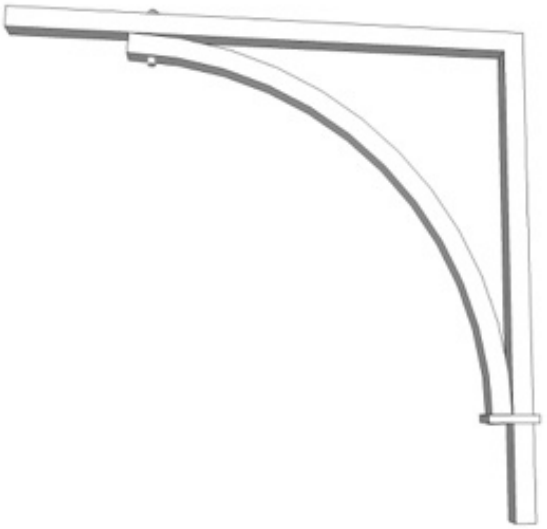
Heating the table edge in the smaller can forge.



A deeper look into the Journeyman Standards

FABA Journeyman Standard #7 Collaring: Make an assembly from at least two separate pieces using this technique.

Information extracted from many sources, including "Christ Centered Iron Works," "Black Bear Forge" YouTube videos and a September 2000 article in posted to AnvilFire.com, with drawings by Jock Dempsey.



Collaring is a technique that takes advantage of a basic physics principal, heat expands and cold contracts. Like hot riveting, which we looked at last time, collars are put on hot to form a tight joint.

Using the formula found in the "Blacksmiths Cookbook" to make a seamless collar, you measure the length to collar then add 2 and ½ times thickness of the collar material to the length.

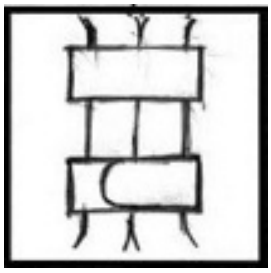
In the case pictured above, we are building a riveted and collared shelf bracket out of ½ inch square stock.

Since the bars are ½ inch square,the length of the collar needs to be ½+1+1+½ PLUS 2.5 times the thickness of the collar material.

Let's assume the collar material is 3/16 thick, this results in 15/32 being added to the 3-inch bar length for the collar. The bar is then scarfed with a file to a distance of twice the thickness of the bar, or for our example, 3/8 inches on each end so they will overlap.

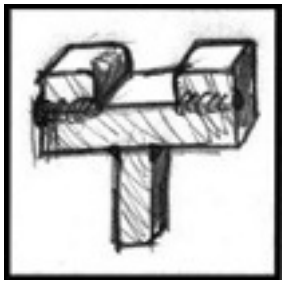
Scarfing the joint makes it less susceptible to opening under high stress. The cross section of the collar would look like this:

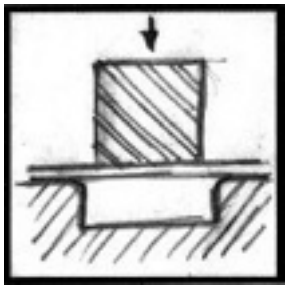
To make the joint, you forge the first bend, then clamp and bend the opposite side to fit. Granted there is a "front" and "back" to this, but the joint is almost invisible.

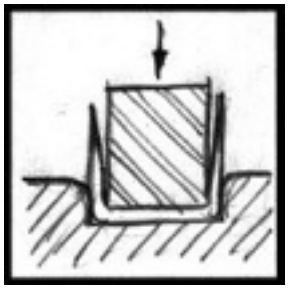


A butt joint collar can also be improved by cutting the ends at a 45° angle. These require a trial fit and have a little of the overlapping advantage but are better used with decorative or incised collars.

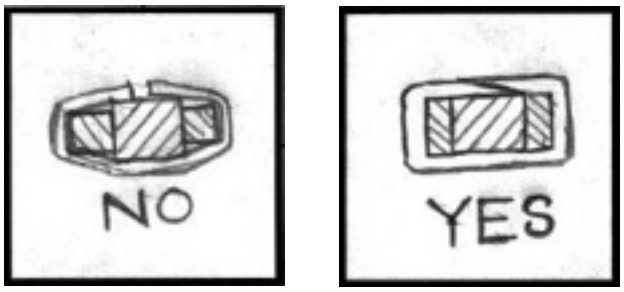
You may want to prebend collars, especially for a big job. Simple hot bending dies can be made as shown below. The dies can be forged or welded using rounds, or squares on the edges. Once the master is built, then heat a piece of steel that is cut to length and place the future collar between the shoulders. Finally, using a bar that is the size of your finished joint, sink this die to make yourself a collar that is ready to attach. For low production numbers, mild steel works, but if you plan on making 500 or more, it would be best to use some type of tool steel.



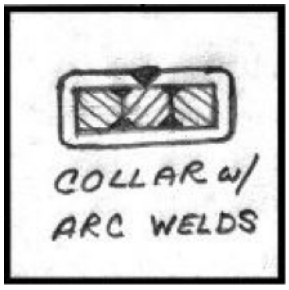




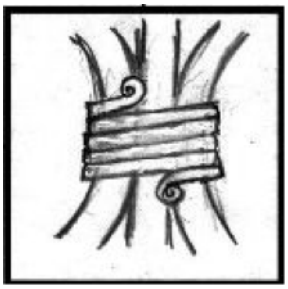
Important recommendation! Not that it's ever happened to me, but you probably want tack weld your jig together for a test fit to be sure the shoulders are not too tight or too loose.



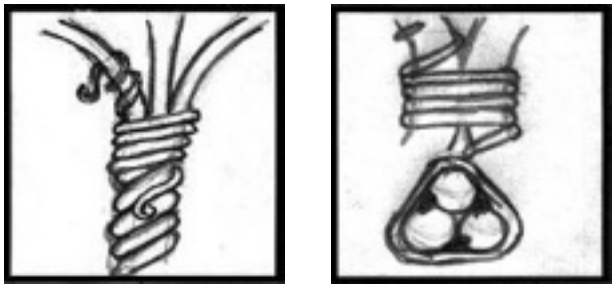
The above is probably common sense, but something you should think about when designing a piece to be collared. For example if the side parts are scrolls on a pickett then the scrolls are commonly smaller material than the main pickett. However, the material on the sides need to be either the same width material as the pickett OR the material can be flattened and widened in a gentle taper to where it meets the pickett so the collar will go on squarely. Depending on the scope of your project this can be expensive in time/effort so spend some time thinking about how you will stack the steel together before you commit. Occasionally the correct size of rectangular stock can be obtained but double check on your local availability. At my steel yard the ½ x ½ is hot rolled but the ½ x ¼ is cold rolled and they don't nest very nicely.



Above depicts a not so traditional method that can be used to dress up welds by putting them under a collar. The collar can also be arc welded in place. In this case you need to leave a 1/16" gap at the butt joint. If welded when clamped tight it gets a LOT tighter when it shrinks and the joint will probably crack open.



One final method of collaring is to make "wrapped" collars. A wrapped collar can be done with square or round bar. The ends should be tapered to blend in OR made into a decorative element (like a leaf). The above drawing is using 3/16 square stock with little scrolls on the ends. Wrapped collars are made by guessing at the length but you can make your guess a little more accurate by taking a cord that is the same thickness/diameter of your wrap stock and testing the look. Once cut to length begin by forging the ends, next clamp one end in place with a set of vice grips and then begin heating the wrap with a torch as you pull/hammer the steel around the joint to make the wrap. If done right, this type of joint is VERY tight.



Round stock is generally used when wrapping round work and square stock is most often used with square work. Round wrapping almost begs for something with a "vine" motif so put a few extra little curls on the ends or let the ends hang like vine tendrils to really set your work off. Because rounds always have a place for welds when bundled you can arc weld the joint and then use a wrapped collar to hide the weld and strengthen the piece.

So, what are you waiting for? Time to try a new technique.

— David Sandlin, Far West Coordinator

The Sector
Look Mom no Fractions

By Steve Alling, a MABA member

The Sector is a simple tool that allows you to divide 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 internet 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 sector 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 corner 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 cement but these are going to make it really hard to get things lined up. There is a neat trick you can do with yellow carpenter'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 inches in diameter. Now you clever computer guys probably can take the downloaded pattern and increase it's size to what you need. I did it mechanically by making a pair of proportional 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 dividers always 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.

This half page article reprinted from The Saltfork January 2020
Excerpt from their member gallery photos-

Christmas Ornament Tongs
by Mandell Greteman

This 2 page article originally appeared in the Bituminous Bits

Shelf Brackets

Steve Alford, Athens Forge

I've wanted to try more complicated projects that call for forging multiple pieces and then joining them together. So when a cabinet in my shop started sagging, it was an opportunity!

I measured the space under the shelf and determined that I needed two brackets, with a top that would fit under the shelf and a vertical section that would extend down the wall, and a little bend to go around a cleat at the back of the shelf. I bent some ¼ x 1 flat bar to these dimensions, adding some curls on the ends (Figure 1). I thought of these pieces as frames to be filled with ornamental iron. Of course, the ornament did need to provide some diagonal support to hold up the shelf!

Figure 1

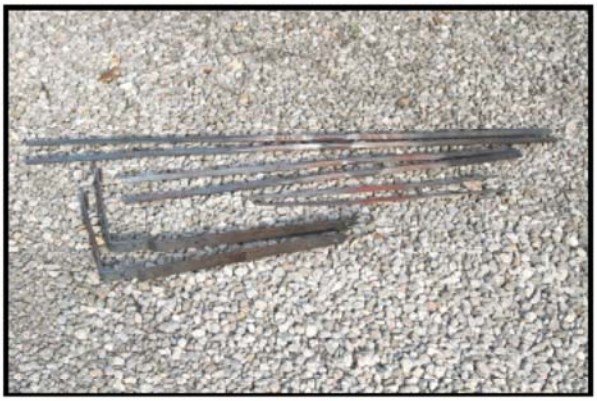


Figure 2

After about a week of making small, roughly-to-scale sketches during lunch breaks, I had a pair of, um, hooky scrolly shapes joined by a wrap or collar. I made a full size drawing and ran a piece of wire solder around all the curves to determine how much length was needed to make the scrolls and hooks. Knowing the lengths of all the tapers, I calculated the volume of steel in the tapers and then what length of ½" square bar would have the same volume. This gave me the length of stock I needed to start with. I used the tire hammer to draw out tapers to the required lengths (Figure 2). I also put in some twists to get a square area for the wraps with most of the middle "on the diamond".

Figure 3

Figure 4

The bends were much too big for my gas forge, so I used coal for the scrolls and bends. I like coal. I scrolled and bent the long pieces first, then clamped them to the frames so I could try the fit of the shorter pieces (Figure 3).

With both pieces forged, I clamped them into the frame and welded the section to be covered by the wrap (Figure 4). I haven't figured out how to make a wrapped or collared joint that is really solid without a hidden weld. Keep trying… maybe someone will write an article about how to design and make collared and wrapped joints…

This 2 page article originally appeared in the Bituminous Bits

I clamped the wraps to the welded assemblies and used tongs and a torch to wrap them around the welded area and tweak the scrolls (Figure 5). I drilled the pieces for riveting to the frame and then had to make some rivets, but finally the brackets were assembled, painted, and installed (Figure 6). The next day I found my box of rivets.

Figure 5

Figure 6

From Allan Kress of Cullman forge

When attempting to make a project with specific measurements a drawing to compare your progress along the way is always helpful. This is a great way to measure the piece as you work it hot.

White welders chalk is most commonly used. This is great because you can easily erase and make corrections but is also problematic because of the same property. Drawings are usually made on a metal layout table.

If finer lines and more precise drawings are desired, use a silver pencil. This is a more permanent solution. Often marks for measurement are made directly on the piece to be worked.

This is a sign bracket I made for a forge meeting demonstration in Georgia a couple of years ago.

NJBA Membership Renewal, Ballot, and Volunteers' List

1) ***The dues holiday is over. Please Renew Now for 2021-2022.***
2) ***If you want to receive printed Newsletters by mail, please also remit the $10 subscription fee.***
3) ***Please Vote for the Board of Directors.***
4) ***Please Volunteer.***

Mail completed renewal form and ballot, along with check for dues, to:
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Name _____

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Your correct Email address is essential if you don't care to pay $10 extra for a mailed Newsletter! Please Print Clearly!

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My check is enclosed: [ ] $20 (regular membership dues), or
[ ] $40 (business membership dues)

Ballot for the Election of the NJBA Board of Directors

Vote for each Director by checking the box by his name.

Nominee	Nominee	Nominee
[ ] Ryan Amos	[ ] Larry Brown	[ ] Mark Morrow
[ ] Billy Barrett	[ ] Eric Cuper	[ ] Bruce Ringier
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[ ] Bob Bozzay	[ ] Bruce Freeman	[ ] Ben Suhaka

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