August 2021

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.

Jul 30—Aug 22	INDIANA STATE FAIR
Sept 3-5 2021	REGIONAL CONFERENCE ROCKVILLE
Sept 24-26	QUAD STATE (SOFA)

Editors Message

The regional conference at Bunkum Valley was completed. I have heard both that it was a good conference and that attendance was lower than expected. Attendance was felt to have been impacted by the hot weather and by insufficient advertising. I have heard comments that Jim Malone is considering hosting again next year.

We can not control the weather, but we can improve our communication. Pages 4 and 5 provide particulars for the next regional conference at Rockville. The back cover includes a 1/2 page specific to the auction and gallery. Several of the buildings at Rockville are air conditioned, so there will be opportunities to escape the heat. Bill Corey will be doing his popular tong making demonstration on Friday evening. Doc Schertz is the featured demonstrator for Saturday. I do not know Doc's specific demonstration plan, but I believe it will cover several different copper projects. I have seen Doc demonstrate in the past. She is a top notch smith and a top notch demonstrator. You will definitely learn from her and have a good time doing it.

On pages 6&7 you find an article sent to me by Gene Divan. Gene and his son Mike had been working on sprucing up an anvil that belonged to Gene's grandfather who was a professional blacksmith in the early 1900's. I can relate to Gene's story as my primary anvil belonged to my wife's great grandfather. I know a lot of people who value old anvils, but the real treasures are the family heirlooms that we can continue to use.

Below is the announcement from David Kunkler on the first IBA quarterly prize drawing. For anyone who was concerned about the lack of IBA hosted events, I hope you like the reinvigorated IBA with regional conferences and quarterly drawings.

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Dates to Remember

Sept 3-5
Fall Conference at Rockville (Parke County Fairgrounds)

Sept 24-26
Quad State

IBA Quarterly Drawing Winner

The Indiana Blacksmithing Association is doing a quarterly drawing of a name from the active membership and that person will have a choice of a $150 credit from one of the following providers of fine blacksmith tools and publications- Jackpine Forge, Fiery Furnace Forge, or Blue MoonPress.

Congratulations to R. Eric Sluder, winner of the first drawing. Please renew your membership if you haven't already. The form and mailing information is on the IBA website.

http://indianablacksmithing.org/membership.html

IBA website: www.indianablacksmithing.org IBA Facebook page: www.facebook.com/groups/IndianaBlacksmithingAssociation/

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

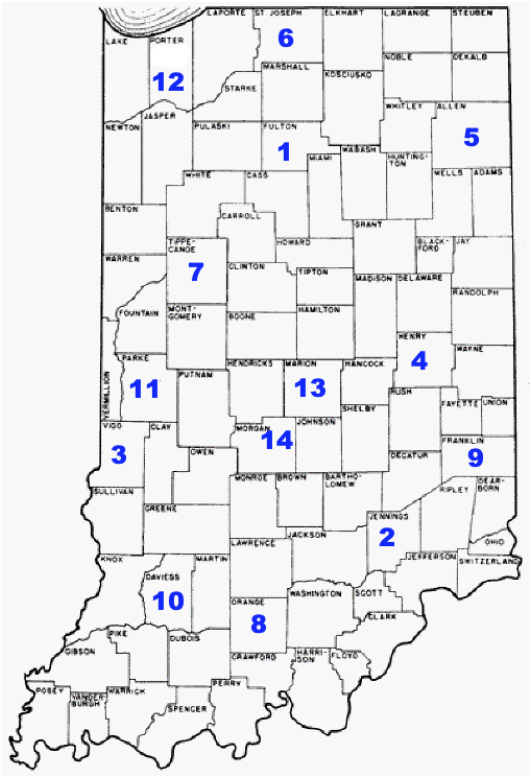
3) Wabash Valley Blacksmith Shop
Meet: 2nd Saturday at 9 AM
Contacts: Doug Moreland (217) 284-3457
Max Hoopengarner (812) 249-8303

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

The Vernon Blacksmiths started with Nathan Pelver making a very nice leaf. Angas Thompson began making a ram"s head. Josh and Chelsea Samson made a nice wall hook and, with the help of a hand made nail header, made a few nail to go with it. We had 16 sign in. A lot of tales were told , and I would never say any of them were not true! Brian Gray is getting along very well and is expected to return to work soon. Hope to see you Aug. 14. Bring iron in the hat and, yes, money! Paul Bray

IBA Regional Conference at Rockville

September 3-5

Parke County Fairgrounds

Friday 9/3/21

12:00pm Blacksmith shop opens

12:00pm Registration table opens

Registration and IBA Membership will be required for the following events

Gallery Entries

Auction Entries

Spouses Copper Rose Classes

Forging Competition

Tailgating setup

12:00 pm Tailgating officially opens (prior sales allowed)

4:00 pm Gallery open to public in community building

6:00 pm **Bill Corey's Tong class/demo**

Saturday 9/4/21

8:00 am Registration table open

8:00 am Gallery open to public

8:00 am Blacksmith shop open

9:00 am -12:00 pm **Doc Schertz Demo**

9:00 am -12:00 pm **Morning Spouse Copper Rose Class**

12:00 pm - 1:00 pm lunch

1:00 pm - 4:00 pm **Doc Schertz Demo**

1:00 pm - 4:00 pm **Afternoon Spouse Copper Rose Class**

4:00 pm Iron in the Hat drawing

5:00 pm Gallery judging

6:00 pm Auction begins

Forging Competition will begin immediately following the auction

Sunday 9/4/21 Tear down and clean up

(Photos of Doc Schertz' copper work from her Facebook page (https://www.facebook.com/search/top?q=docs%20blacksmith)

IBA Regional Conference at Rockville

September 3-5

Parke County Fairgrounds

Food: There will be a food truck on site Friday and Saturday.
Rockville also has several motels and restaurants.

Camping: The 4H Fairgrounds has clean bathrooms and showers.
RV and primitive camping available $20 electrical hook up.
Dump station available

Demonstrations and Classes

Bill Corey's demo will be in the Blacksmith shop
Doc Schertz demo will be in the Cow Palace
The Spouse Rose Classes will be in the Commercial Building
The Gallery and Auction will be in the Community Building.

Auction Guidelines

- Only work from IBA members will be accepted for auction.
- All items must be hand worked metal (steel, copper, brass etc..)
- No yard art will be accepted
- The name of the artist must be included in registration if not the person entering the item.
- The split is 50/50. The owner/artist keeps 50% and the IBA keeps 50% of what the item brings. If the artist/owner wishes to donate part or all of his/her share please let that be known at the time of registration.
- All items are to be paid for prior to removal from community building.
- Payment can be cash or check. No credit cards excepted!

Gallery Guidelines

- Only work from IBA members will be accepted into the gallery.
- All items must be hand worked metal (steel, copper, brass etc..)
- No yard art will be accepted
- Work must be by the submitting artist.
- Categories will be
    - Traditional (no electric or Oxy/Fuel welding)
    - Non Traditional
    - Edged.

Iron-In-The-Hat Guidelines

- Separate drawing by item as we have done for the past several years.
- No scrap
- Blacksmith related tools (blacksmith made or commercial)
- Quality items that may not fit auction guidelines

Family Anvil History

The following article was submitted by Gene Divan regarding an anvil with long time family history. Background on the anvil manufacture was provided by Richard Postman, author of Anvils in America.

Manufacturer

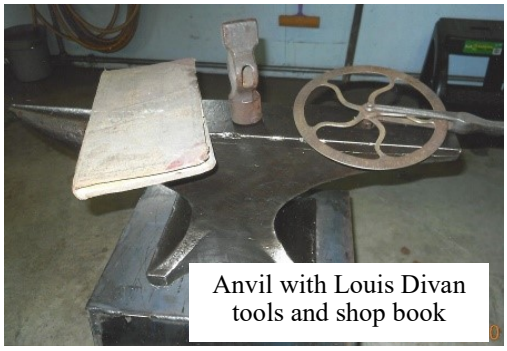
In the 1890's, David Buel came up with a way to produce a high quality, low cost wrought iron anvil. Before applying for a patent, Mr. Buel formed a company to be called Columbus Forge and Iron Company of Columbus, Ohio. It was incorporated in 1898 and granted a patent in 1899.

Columbus Forge and Iron Co. produced Trenton brand anvils between 1898 and 1952 when production stopped.

The Divan Blacksmiths

My grandfather, Louis Divan, immigrated to the United States in 1901 from northern Italy, settling in Clinton, IN. He started a blacksmith shop in 1903. He worked as a blacksmith-wheelwright until his passing in 1942. My father, Roy, took over the shop in 1942 working as a blacksmith-welder until 1979, passing away in 1981.

Cleaning the Anvil



Anvil with Louis Divan tools and shop book

In early 2018 my son, Mike, noticed the anvil lying in the back corner of our hobby shop. I think he was impressed with its history. But after many years of work and 4 decades of lying around covered in grease, grime and dust, time and dirt had taken a toll on its appearance. Mike volunteered to do the cleaning. After different solvents, a 4 1/2" wire wheel grinder and couple of rub-downs with RIG inhibitor and many hours of work, he ended up with an absolutely beautiful anvil.

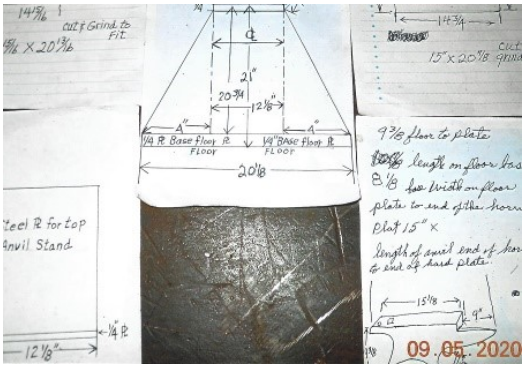
The Trenton Wrought Iron Anvil

Anvil showing post July 6, 1927 trademark

After July 6, 1927 the diamond shaped line around the name TRENTON was changed to a broken line and the letters were curved. These changes are very evident on the anvil. The weight was correct at 105 lbs, which also indicates it was purchased after July 6, 1927 (ref Anvils in America, pg 329). When production of this anvil stated, Louis Divan was only 48 years old and owned his own successful blacksmith and wheel-wright business. It is very likely he wanted to have the new trademark anvil in his shop as soon as possible. This sets it age at 94 years. It was last used by my father, Roy, in 1979.

The Base

We have a beautiful anvil and agreed that we needed a base to match (Anvils in America pgs 164 & 453). We decided to fabricate the base using 1/4" hot rolled steel. It would be 21" high, the bottom plate 20 1/8" x 15 1/2", the top plate 15 1/2" x 12". It would have to be able to stay level and dead flat. We then considered reinforcing the top plate. We also used a hand drawing to keep us going in the right direction. With the base finished and the anvil setting in position, be blocked all four feet with 1/2" hot rolled square bars to stop any movement at the base.

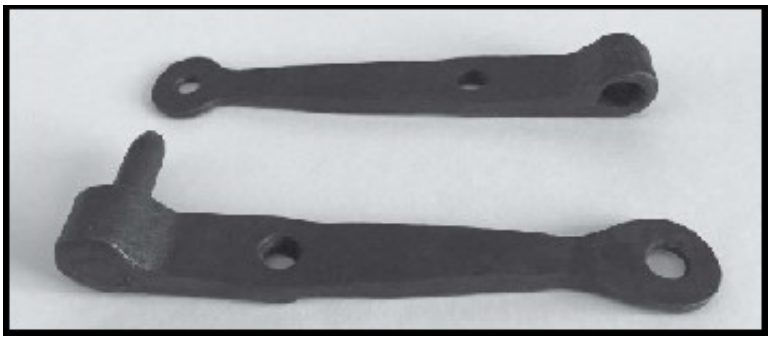


Mike and Gene Divan with anvil base

Mike Divan showing reinforced anvil base

Welded Hinge

Instructor Certification Demonstration
David Gottfredson, San Diego



Stock

¼" x ¾" x 20" (enough for both halves)
⅜" dia x 12" (for Pintle & Mandrel)

Tools

Blacksmith hammer w/cross peen.
⅜" tongs for holding round stock.
Tongs for holding/supporting end of bar stock (flat, box jaw, etc.).
Welding gear – low-IR glasses, borax, brush, light rounded hammer (optional).

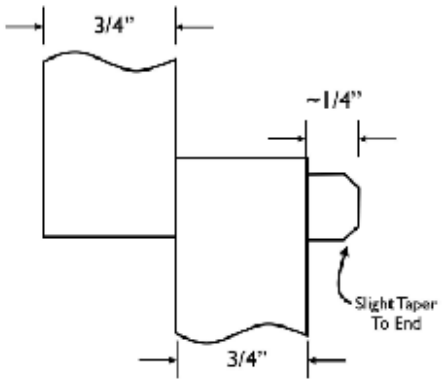
This relatively simple welded hinge is useful where a durable hinge is desired. It is more durable than a turned-eye hinge because the welding prevents the eye from opening with use and abuse. A key aspect of the hinge is the square corner that provides a solid starting point for the weld and helps prevent the eye from peeling open.

Note. These hinges can be made in a variety of shapes and sizes, but for this demonstration we will be using ¼" x ¾" flat stock and ⅜" diameter round stock. For other sizes, simply adjust the following calculations and dimensions accordingly.

Welded Hinge

Pintle & Mandrel

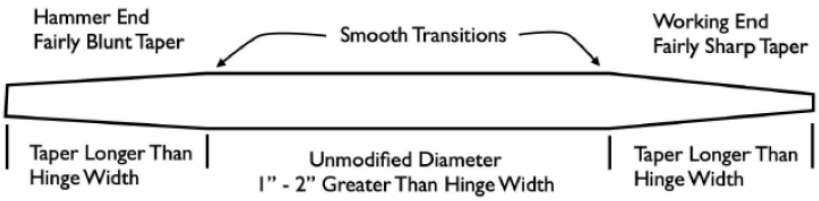
Making the pintle and mandrel first is a good way to warm up for this project.



Pintle. The pintle is simply the pin that the hinge turns on. The length of the pintle needs to be double the hinge stock width plus a little extra. How much extra is primarily a matter of aesthetics. Another thing to consider is assembly of the overall project for which you are making these hinges. For example, say you are installing a door with three hinges. You might want to increase the length of the pintle on the hinges from top to bottom so that the bottom hinge engages first, followed by the middle hinge and then, finally, the top hinge. For this project we will just have the pintle extend about ¼" above the hinge after assembly.

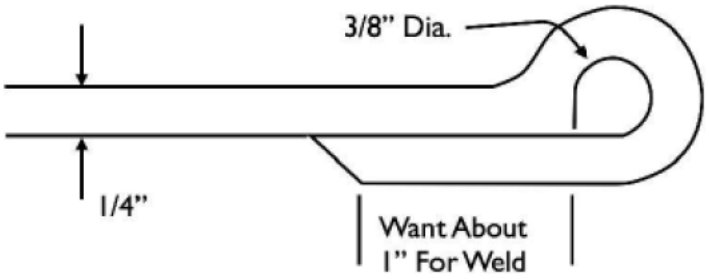
We are using ¾" stock so the pintle length is 2 x ¾" + ~¼" = ~1¾". To aid in assembly, put a slight taper in the end that will be exposed, but don't extend the taper into where the barrel (eye) will be. Otherwise, the hinge could be a bit sloppy when it is assembled. If you do the tapering now, before cutting the pintle off your 12" length of material, you won't need tongs! Cut off to required length and set aside. (Don't lose it!) That's all there is to the pintle.

Mandrel. If you don't already have a ⅜" diameter mandrel, now is a good time to make it. Remember, a mandrel and drift are not the same thing. A drift is used to enlarge and shape a hole to a specific size and/or shape. A mandrel is an object around which the metal is forged and shaped. In this case we will be using the mandrel to help shape the hinge eye or barrel. The working area (i.e., ⅜" diameter) of the mandrel needs to be at least the width of the hinge material, preferably 1" to 2" longer.



Use the remaining ⅜" diameter stock that you used for making the pintle. You want the unaltered length of the ⅜" diameter stock sufficient to wrap the hinge material around. For this project, 2"-3" overall is good. You also need to taper the ends so that the mandrel can be easily inserted into or knocked out of the hinge barrel. The tapers need to be a bit longer than the width of the hinge material to ensure that it comes out easily. Make sure there are smooth transitions so that the man-drel doesn't hang up. The working end can be rather pointed; the hammer end should be blunter or it will mushroom and bend easily. An overall length of about 6" is a good size for this mandrel.

The Welded Hinge



Layout. The first thing we need to do is determine the length of material required for the barrel and welded section.

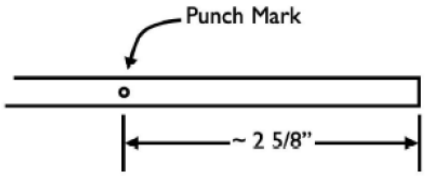
The general formula for the length of material required for the barrel is the circumference of the hole plus one thickness of the hinge material for every 180° of turn. So in this case, add two thicknesses.

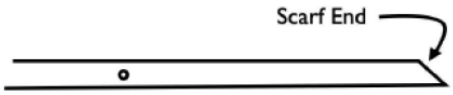
$$L = \pi D + 2T$$

Using blacksmith math, L = 3 x (⅜) + 2 x ¼ = 1⅝"

Welded Hinge

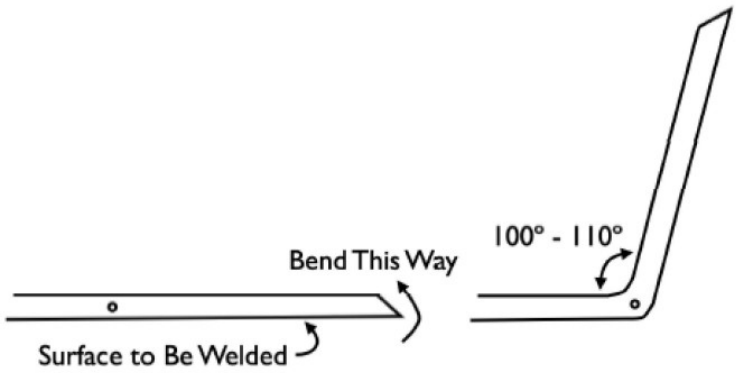
We also want a good inch of length for the welded section. So, we need to make the square corner about 2⅝" from the end of the bar. Make a punch mark 2⅝" from the end of the bar, and then scarf the end for the weld.



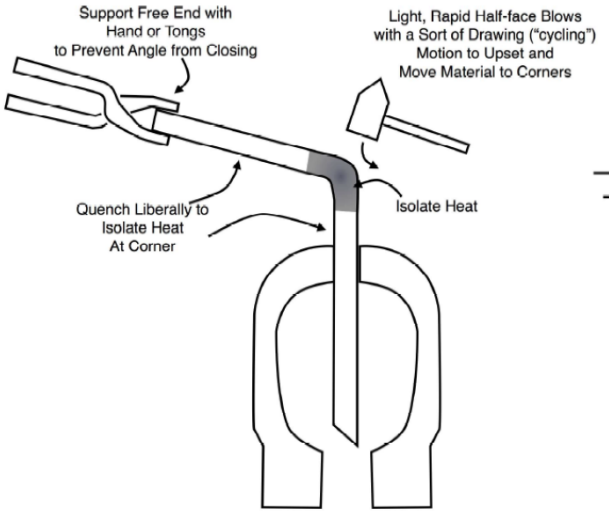


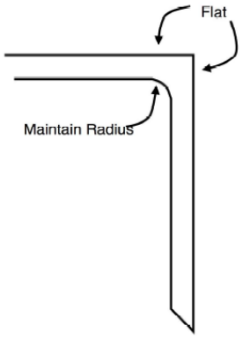
Note, making the scarf will increase the length of the bar slightly (~⅛") relative to the punch mark you just made. You can ignore this.

Using the edge of the anvil or a vise, make a relatively tight bend at the punch mark and away from the welded surface to an angle of 100° to 110°. Do not bend to 90° at this time or you will get cracking in the corner of the bend as you proceed.

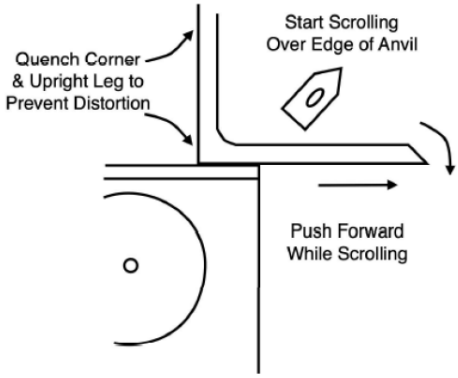


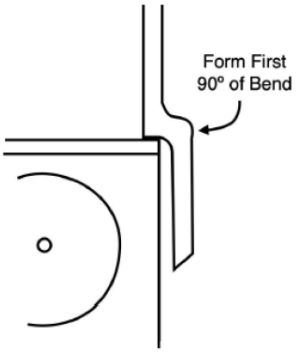
Forge the square corner using a light, rapid drawing motion of the hammer to upset and move material into the corner. Quench the ends liberally to isolate the heat in the corner. DO NOT let the angle close to less than 100° until the corner is completely formed. Once the corner is formed, close up the angle to 90° and true up the sides.





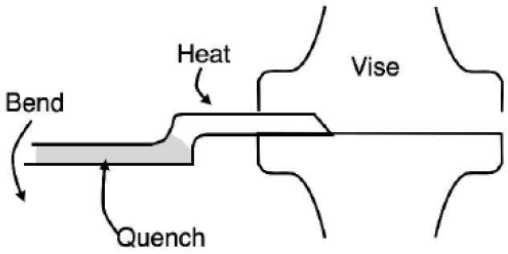
Begin forming the first 90° of the barrel by quenching the square corner and scrolling over the edge of the anvil. Take care not to distort the square corner and keep everything true.

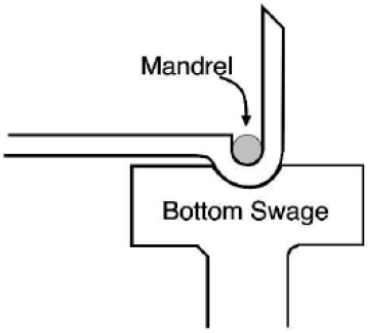




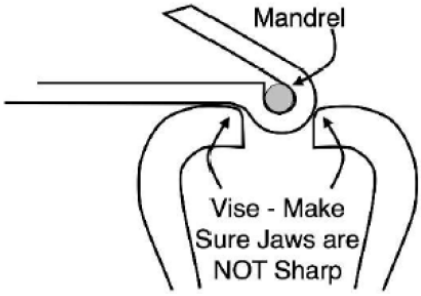
Welded Hinge

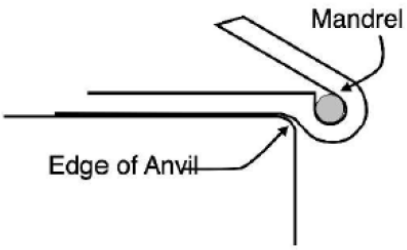
Continuing the scroll to complete the barrel can be a bit tricky. Quench the parts that you are happy with and continue along the length until the barrel is closed. Use the mandrel as needed. Shown below are various methods for shaping the barrel.





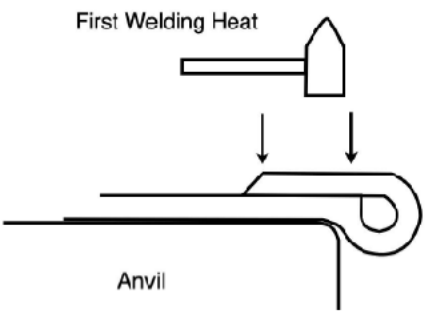
It is often useful to *freehand* the entire barrel as much as possible so that the eye ends up a bit small (*but not too small*). Then heat the barrel to a near-welding heat; drive the mandrel in to reshape and open the barrel slightly, and then, with the mandrel in place, reclose the barrel.

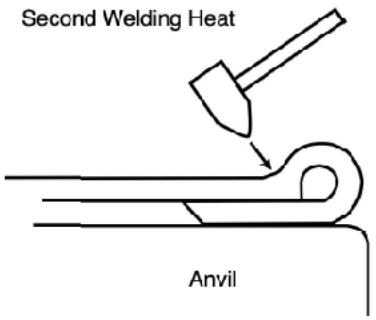




Now we're ready to weld! Clean up your fire, and remove any clinker that may have formed. Build up the fire. General rule of thumb is to have the coal/coke at least twice as deep as the fire pot. Heat the metal evenly in the reducing part of the fire. Clean and flux as needed. It's best to have the barrel facing up for most of the heating to prevent it from burning. As the piece nears welding heat, rotate frequently in the fire to ensure uniform heating. Remember, both parts to be welded must be at the same tempera-ture or they just won't weld.

On first welding heat, hang the barrel over the edge of the anvil and work at scarf and square corner. On second welding heat, use a rounded cross-peen to strike in the corner to help set the weld at the square corner.





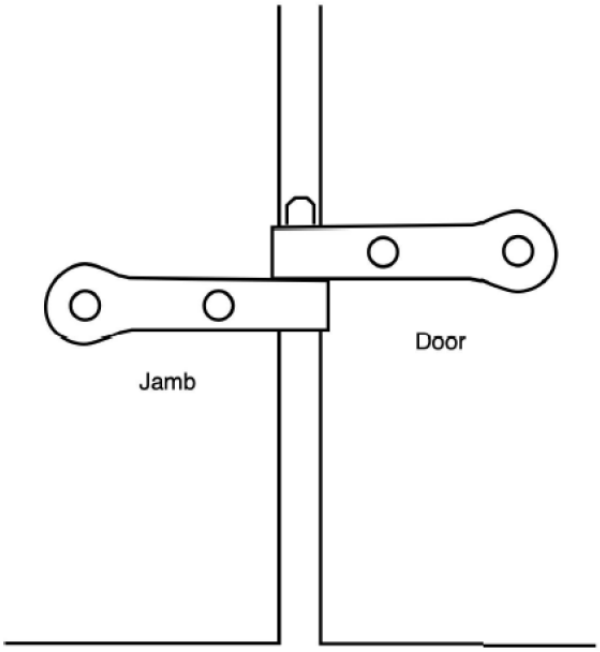
Continue to work at welding heat, taking care to not burn the barrel or to distort the eye. On subsequent heats, complete the weld and taper the material back down to ¼" thickness. Don't increase the ¾" width. Blend in the scarf joint. The hinge will lengthen a bit during this step.

The hinge has been welded!

Before separating the hinges from the parent stock, complete the other hinge half on the other end of the bar. It's easier to handle the bar while completing the second half of the hinge BEFORE you install the pintle.

Welded Hinge

Install the Pintle



Once you have completed both hinge halves, BUT BEFORE separating the halves from the parent stock, it is time to insert the pintle. Remember the pintle you made at the beginning of this exercise?

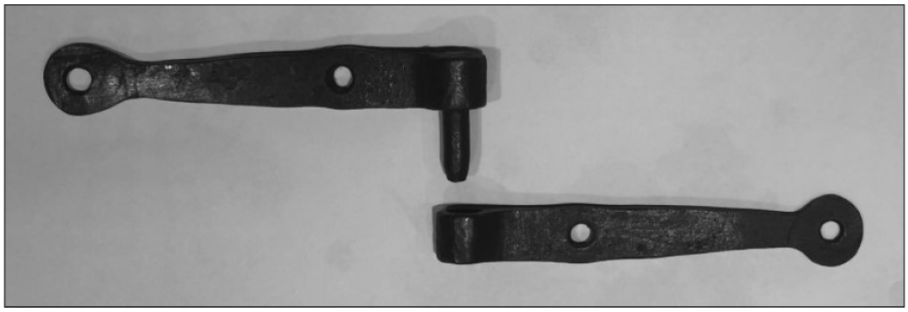
The orientation of the pintle is important; it must be installed in the bottom (lower) half of the hinge, and it must point up. For example, if the hinge is being installed in a door jamb, you need to determine if it will be installed on the left side or the right side of the door and orient the pintle accordingly.

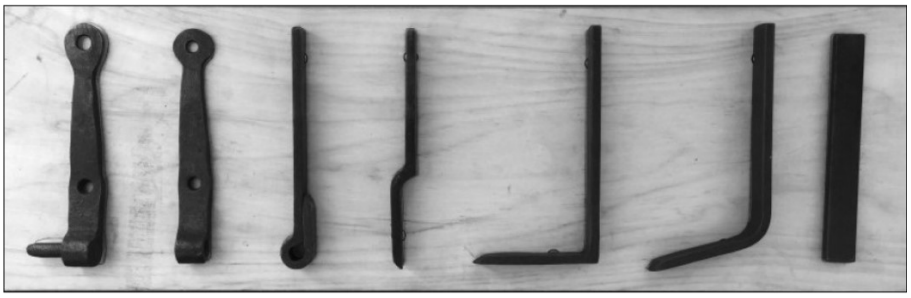
Hopefully, if anything, the barrel shrank a little during welding so that the pintle fits snugly. Once you determine the correct orientation for the pintle, heat the barrel to a near welding heat and drive the pintle through the barrel until the (non-tapered) end of the pintle is flush with the bottom of the hinge. Because we need both pieces to be at the same welding temperature, set the hinge aside for a few minutes to let the pintle absorb some of the heat from the hot barrel. This will make it easier to bring both pieces up to welding heat.

The pintle does not need to be welded with a full, tight 360° weld. Essentially, it just needs to be tack-welded to ensure it doesn't work its way out in use. Thus, focus the weld at the bottom. Don't point the pintle down into the fire, or it will burn!

Once the pintle is in place, cut the hinges to the appropriate length from the parent stock. Finish the ends with finials of your choosing, and punch holes as needed. Note that punching a hole through the welded area will add additional strength when the hinge is mounted.

That's it! Congratulations, you've made a welded hinge. There are many different styles, so do some exploring. ***And have fun!***





From the California Blacksmith Association's *California Blacksmith* Jan/Feb 2020

The *FORGE FIRE*
Newsletter of the
Indiana Blacksmithing Association, Inc.

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The Gallery and Auction for the Fall Conference of the INDIANA BLACKSMITHING ASSOCIATION

When:	**Friday, September 3rd**	**4-8 p.m.**
	Saturday, September 4th	**8 a.m. - 6 p.m.**
	w/ Auction	**6 p.m.**
Where:	**Parke County 4-H Fairgrounds**	
	1472 N US Hwy 41, Rockville, IN 47872	

As part of our mission to promote blacksmithing to the public we will have a gallery showcasing some of the best forged metalwork in Indiana and surrounding states.

50% of the proceeds will go back to the artist and **50%** will go to the IBA to support their educational programs.

Any questions contact (812) 877 7274

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