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January 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.

The Indiana Blacksmithing Association, Inc., its staff, officers, directors, members, and hosts and the *Forge Fire*, specifically disclaim any responsibility or liability for damages or injuries as a result of any construction, design, use, manufacture or other activity undertaken as a result of the use, or application of, information contained in any articles in the *Forge Fire*. The Indiana Blacksmithing Association, Inc. And the *Forge Fire* assumes no responsibility or liability for the accuracy, fitness, proper design, safety, or safe use of any information contained in the *Forge Fire*.

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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.

**Mar 20
2021**

**IBA BUSINESS MEETING
LOCATION TBD**

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Dates to Remember

March 20 Annual
Business Meeting
location TBD

Editors Message

The IBA Board of Directors is planning to hold an annual business meeting in March. The meeting may be a virtual/video conference or a physical meeting with social distancing. Currently the direction is toward a virtual meeting. Check the February Forge Fire and/or the IBA Facebook page for more details. One of the topics of interest will be ways to safely resume hammer in activities.

Historically we announce two directors at the annual meeting. At this point in time we do not have any defined candidates. If you are interested in serving as a director, contact Steve King (ph: (812) 797-0059, or email: king-stephen228@gmail.com).

Brad Weaver is seeking 2021 award nominations for:

- The Clifton Ralph IBA Blacksmith of the Year
- The IBA Rookie of the Year
- The Paul Moffett service award

If you would like to nominate someone for an award, contact Brad by phone at (812) 371-8674 or by email at bweaverhlw@yahoo.com. Nomination forms and instructions are available on the IBA website (scroll down to "Awards" at <http://www.indianablacksmithing.org/membership.html>.)

Take a look on page 6. The Center for Metal Arts has announced scholarship opportunities. The deadline to apply is February 1, so do not delay.

IBA 2020 Award Winners:

Ray Sease



Oak McLean

Eric Shotwell



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

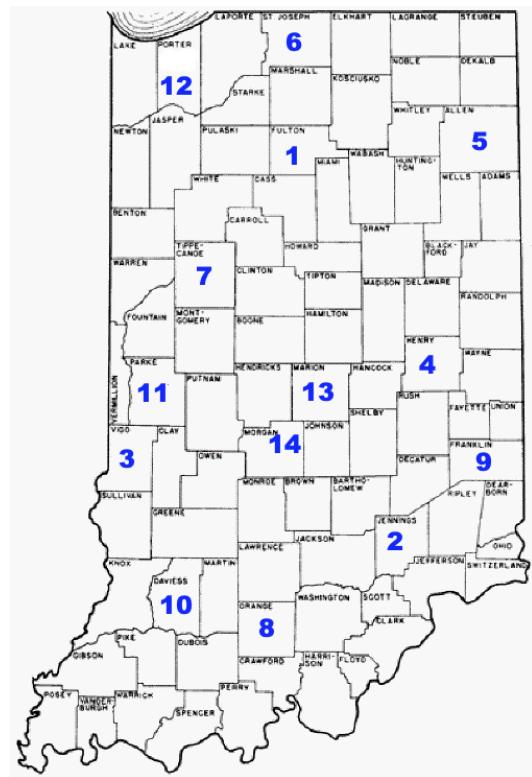
Meet: 2nd Saturday
 Contacts: Clint Casey (260) 627-6270
 Mark Thomas (260) 758 2332

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

Paul Bray suffered a heart attack over the New Year. He had bypass surgery on January 4. Recovery to date has been slow, but he is home now. Please keep him in your thoughts and prayers.

Ken Dettmer will be hosting a hammer in on February 13. Ken's shop is located at 15721 S 250W Columbus, IN. Detailed driving directions can be found on the back page of last January's Forge Fire (<http://www.indianablacksmithing.org/newsletters/ff-2020-01.pdf>). We will have a pitch in lunch, so bring a dish to share. Be sure to wear a mask and social distance.

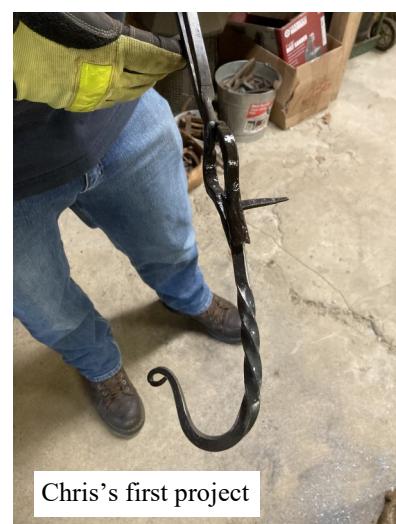
IBA Satellite Groups and News (continued)

Snake Road Forge

Snake Road Forge had our December hammer in. Had 6 people Saturday. One new guy, Chris made a decorative hook did ok for first time. Also that evening had a church group came out almost 25 people showed up. Supposed to be 10 but word spread and numbers grew. We had a special treat, a friend of mine Mike Tucker, a professional blacksmith, came out and did a demonstration on how to make a horseshoe from scratch for the group. He did an excellent job and gave the horseshoe to the first kid that finished his decorative hook. A great time was had by all. Our meeting will be January 2, we are planning on doing a demonstration on forge welding.



Mike Tucker making a horseshoe



Chris's first project



Dads helping sons

Mike Mihich made these



IBA Satellite Groups and News (continued)

Bunkum Valley Metalsmiths

The Bunkum Valley Metalsmiths met Saturday, January 2 with 22 in attendance. We have some new young people learning to blacksmith and lots of seasoned veterans to help them. We had our officer elections last month and it was voted to leave the roster the same.

Jerry Robinette fried up a juicy turkey and we had a wonderful lunch spread along with some yummy deserts! The food is always wonderful as is the fellowship among friends both old and new! We welcome anyone who would like to attend.

Best wishes for a Happy and healthy New Year in 2021!

Call Jim Ray Malone, President 812-636-7533 for questions or directions!



Scholarship Opportunities: February 1 Deadline

**Center for Metal Arts,
106 Iron St. Johnstown PA 15906**
 phone: 814-418-0409
 email: contact@centerformetalarts.org

Happy New Year! Center for Metal Arts is offering scholarship opportunities for some of our extended workshops in 2021. Our scholarship opportunities are for three of our week-long workshops; [Fearless Forge Welding with Addison de Lisle](#), [Intermediate Tool Making & Design with John Williams](#), and [Fabricating & Forging Utensils with Erica Moody](#). I wanted to pass along this great opportunity for you to share with your members, which was made possible by our numerous generous donors. The deadline to apply is one month away, February 1st, 2021. I have attached a PDF to this email that goes into detail about the three week-long workshops and the instructors teaching them. [Here is a link](#) to the application for our scholarships. If your members or you have any questions regarding our scholarships or the application please email us at contact@centerformetalarts.org. Thank you!

Patrick J. Quinn

[Center for Metal Arts](#)

[Patrick J. Quinn](#)

Working by Hand (*is in Your Mind*). By PETER ROSS.

When you hear that phrase “working by hand” do you think of the quiet days on your grandfather’s farm, when work was done at a slow steady pace and the noise of a diesel was years in the future? Working by hand brings up an image of peaceful, careful work—something to dream about when you’re rushing from one job to the next. Any one who has tried hand tools now and then knows that they are slower than power tools. How did anyone get things done? If they were farming by hand and washing by hand and cooking by hand how did they have the time to build the houses and barns that have stood in this country for 100 years? And build them without power tools.

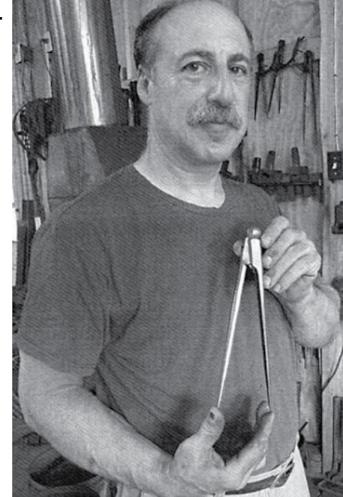
While some hand tools may be slow, there are ways to make the job go faster. One of these ways is to use fewer numbers. Good workmen back then could add or subtract or read a rule as well as anyone alive today, but they measured without using numbers. How do you do that? Caliper or dividers or a story stick are just as accurate as a tape measure but can be read instantly with no calculations. In some instances they simply held the piece up to the space and traced right on the board where to cut.

Another way to speed up the work is to eliminate accurate measuring whenever you can. A good example in the new blacksmith shop is the strap hinge for the big double doors. Instead of drilling the mounting holes in each hinge, they were punched at the anvil while the hinge was hot. Since the hinge was already hot in order to beat out the taper, punching didn’t add much time. The holes are not perfectly spaced, but don’t need to be. Since only an approximate spacing is needed quick eye judgment is sufficient and the holes could be punched without measuring.

Even the size of the hole can be approximate. To make a hole you drive a punch through the hot bar. By making the punch taper towards the tip you can make the hole bigger by driving it through farther. As long as you keep a sample bolt handy to check once in a while, you can make holes that fit without having to be precise.

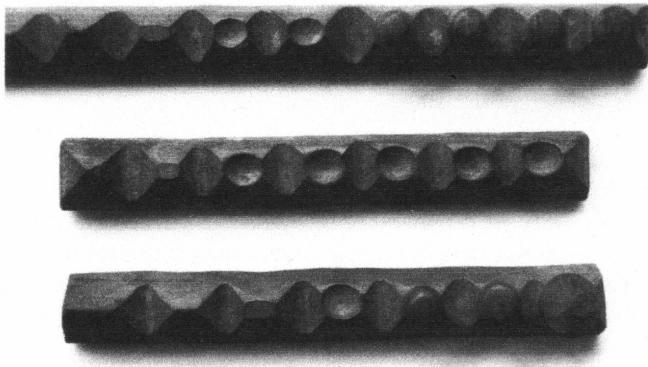
Again, no need for numbers. The hinges themselves vary, too. At a glance they may seem like duplicates, but on closer inspection each is a different length and shape. To make them more alike would increase the time considerably, but not improve the function at all.

When you are in the habit of working this way you start thinking about which details matter in a piece and which ones don’t. There are always a few things that do matter. The hinge eye should fit the hinge pin. The hinge should be flat so it mounts to the door. But it can be longer, or shorter, or the holes can shift. This is the key to working faster once you have the basic hand skills mastered. It allows you to concentrate on the details that are important without being distracted by the ones that are not. When you watch someone work this way, it can seem like the work comes out perfectly, with no measuring or figuring, as if by magic. Actually, it is just knowing what to focus on.



Taken from the November 2012 Anvil's Horn of the Arizona Artist Blacksmith Association.

Patina On Steel



Patina samples from James Viste's 2002 ABANA conference demo.

By James Viste

Chemicals

Ferric chloride— Available at chemical suppliers and (easier) Radio Shack as “PCB Etchant Solution.”

Ferric nitrate— Available at chemical suppliers as jewelers pickle (“Sparex” brand or others).

Muriatic acid— Available at any hardware store.

Selenium dioxide (Gun Blue or Photographer’s Selenium Toner). Sodium chloride (table salt).

Attention: Most of these chemical patinas are hazardous in some way or another, obvious precautions should be taken into account. Wear rubber gloves and eye protection when applying, and work outdoors in fresh air. Read the MSDS(Materials Safety Data Sheet). You can learn more about MSDS on the web at www.ilpi.com/msds/, and you can learn about these chemicals themselves at www.msdsonline.com/.

Colors and tones

Ferric chloride— All tones and stages of rust.

Ferric nitrate— Lighter tones of fine rust.

Jewelers Pickle (“Sparex” brand or others)— Copper plating (will accept some cold patinas for copper) and tones of brown.

Muriatic acid— Light to medium tones of fine rust.

Selenium dioxide (Gun Blue or Photographer’s Selenium Toner)— black, gray, blue, dark brown, dark green, dark orange.

Seals

Paste wax— Johnson’s, Butchers, Trewax.

Floor sealer— Mop and Glo, Future floor sealer, Institutional floor sealer.

Pledge, or other such furniture polishes.

Surface preparation

In most cases, sandblasting to bare metal is preferred before any patina work is done. In situations which do not allow blasting, dipping or consistent brushing with a diluted mixture of muriatic acid and water (1:4) will successfully remove scale and other

organic (non-greasy) substances. (Keep in mind this is a slight oxide producing acid, so rinse and dry before any desired patina is applied; some sanding or Scotch-Bright burnishing may be necessary.)

Old Rust

Comments— I came on this by accident and was very happy about it. The time frame to achieve this surface is a bit long and varies with changes in weather and moisture conditions.

1. The firescale should be left on the object, If any whitesmithing (i.e., filing and grinding) has been done, heat area with forge or torch build a minimal amount of scale.
2. Spray with a dilute mixture of ferric chloride and water (approx. 1:5).
3. Wrap the object in plastic (i.e., garbage bags, plastic sheeting) for about a week. This time will allow the solution to “soak” into the fire scale and corrode it.
4. When all fire scale has been corroded (rusty in appearance), unwrap and rinse with water.
5. Allow the object to dry.
6. When the object seems to be dry, coat with wax (paste wax). Brush it on thin and cold.
7. Allow the object to stand for approximately a week. Check it each day and watch for drops of water to develop in all surfaces. It will look like it is sweating, in effect it is; residual ferric chloride in the scale and oxide is pulling moisture out of the air and using it to continue corroding the scale.
8. When all surfaces are sweating evenly, wirebrush the entire object well and rinse with solution of baking soda and water to neutralize the acid. Rinse with water and allow to dry.
9. When the object is dry, allow it to stand a few days and watch for any further sweating. If there is some, rinse again with solution of baking soda; if not, brush the object with a fine brush and coat with wax.



A patina-treated vessel by James Viste

Patina on Steel (cont'd)

10. At this point, the object should look like it has been rusting for several years and should require no more maintenance than any other waxed object.

The look of Cor-ten

Comments— This can take some time, but the final results are much like cor-ten steel or steel that has been outside for many years.

1. Sandblast to bare metal.
2. Spritz with a light solution of ferric chloride and water (1:5).
3. Rinse with just water.
4. Allow object to dry.
5. Place the object outside in full exposure to all weather.

Fresh Rust

Comments— Most of the chemicals listed will give some variations of early rust. Slight changes in application and treatment will affect the color and tone of this rust; best to play around.

Note— Many of these operations create an iron oxide pigment on the surface of the object which can be sealed with wax, but can also be wiped off with your hands, so handle with care.

Ferric Chloride

1. Sandblast to bare metal.
2. Dip into solution of ferric chloride and water (1:5).
3. Rinse in water bath.
4. Allow to air dry and stand for 1 day.
5. Wax with paste wax and treat accordingly.

Note— If object was not rinsed extremely well, the rusting process will continue underneath the wax.

Ferric Nitrate

1. Sandblast to bare metal
2. Spritz with solution of ferric nitrate and water (1:2).
3. Rinse with water.
4. Air dry.
5. Wax with paste wax and treat accordingly.

Note— If object was not rinsed extremely well, the rusting process will continue underneath the wax.

Muriatic Acid

1. Soak in solution of muriatic acid and water (1:3) for 3 to 12 hours. This will remove fire scale and any flux or dirt on the metal.
2. Remove and rinse.
3. Air dry.
4. Color change will occur during and after drying. If color does not develop, spritz with solution every few hours and rinse when color develops.

5. Wax with paste wax and treat accordingly.

Note— If object was not rinsed extremely well, the rusting process will continue underneath the wax.

Sodium Chloride

Note— Spritzing with a solution of salt water during the drying times will add to the coloring variations of these patinas.

Copper Plating

The chemistry for this is worn out jewelers pickle solution. This solution removes oxide from non-ferrous metals, it turns from clear to a deep blue when it has become saturated with copper oxide. If you do not have access to this you can make it by purchasing the chemical compound from a jewelers supply and adding copper oxide to it.

1. Sandblast the object to bare metal.

2. Spritz with solution.

Note— when spritzed, the copper plating appears after several exposures, so spritz in an overlapping pattern, allowing the solution to run off the object.

3. After plating has been achieved, rinse object in solution of baking soda and water to stop all action.

4. Air dry.

5. Burnish with fine steel wool to brighten the copper.

6. Wax with paste wax and treat accordingly. Note— solution can be used over large surfaces with stencils or wax resist to create patterns and mottled surfaces.

Black and Blue

Comments— there are many variations of this patina and a wide variety of colors that can develop with slight variations in the application.

1. Sandblast to bare metal.

2. Spritz with a light solution of selenium dioxide and water (1:20) Note— The second exposure to the solution is when the color really starts to change, so spritz in an overlapping pattern, allowing the used solution to run off the piece.

3. Rinse very well with water.

4. Spritz with a (1:1) solution of floor sealer.

5. Rinse with water.

6. Air dry.

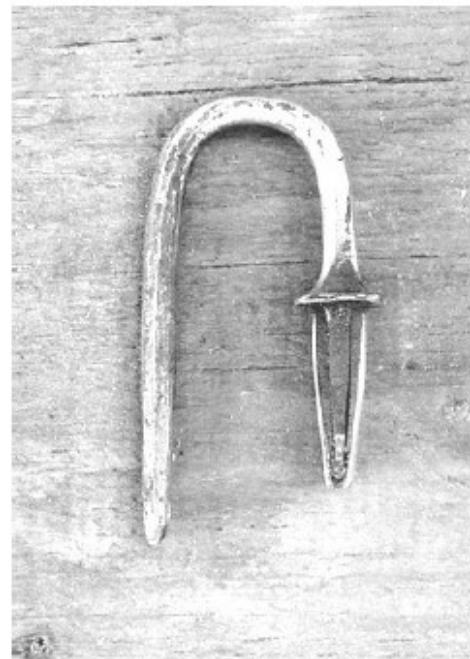
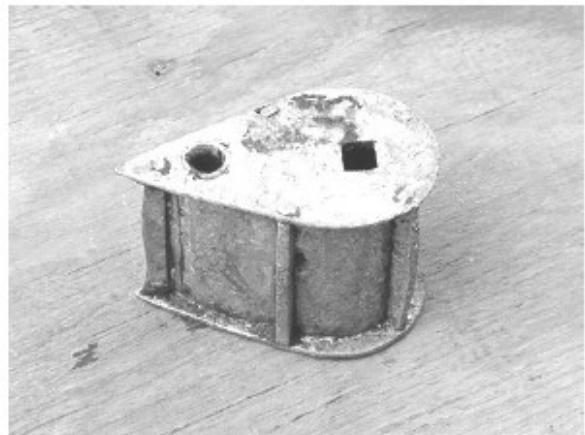
7. The object will be black and can be waxed at this point, or burnished with fine steel wool to bring up steel gray highlights.

8. Wax with paste wax and treat accordingly.

Note— If the object is not rinsed well and the floor sealer is not applied, the patina will develop into variations of green and brown.

The Viking Era Work of Tom & Kitty Latané

by Thomas Latané

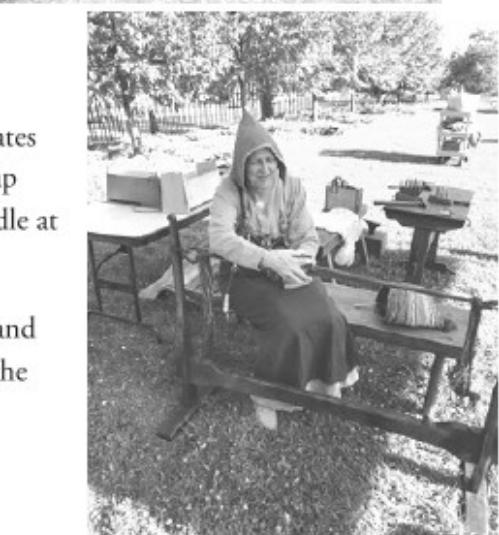


I have taught classes in the Viking style padlock at Tunnel Mill and the Vesterheim Museum. Last summer we held a class in making the small chest from boards riveted from oak logs on Raspberry Island. To the right is a photo of the body of the lock with ribs surrounding the bent side wall tenoned into the top and bottom plates and brazed and a picture of the shackle with the spring brazed to the end that fits into the mortise in the body.



Left: Kitty Latané demonstrates tape weaving with a back strap loom with rigid wooden heddle at the Castlerock Museum.

Right: Kitty demonstrates band weaving on a tablet loom at the American Swedish institute.

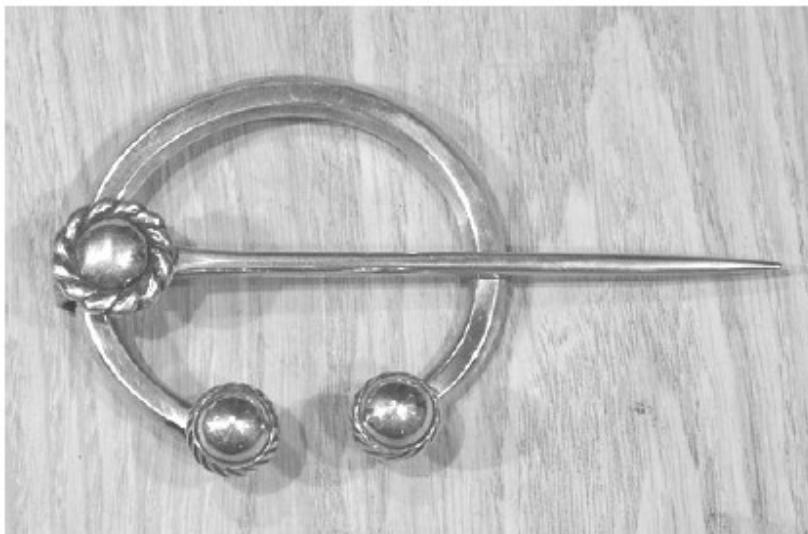




Left: Axe inspired by Mammen style
825-975 AD Pure iron folded and
forge welded, high carbon bit, sterling
silver wire inlay



Left: Axe inspired by Viking axes
found in western Russia Pure iron
wrapped and forge welded, high carbon
bit, fine silver wire inlay



Left: A brooch I made for a customer from
some bronze coins he wanted me to melt
down and hammer out.

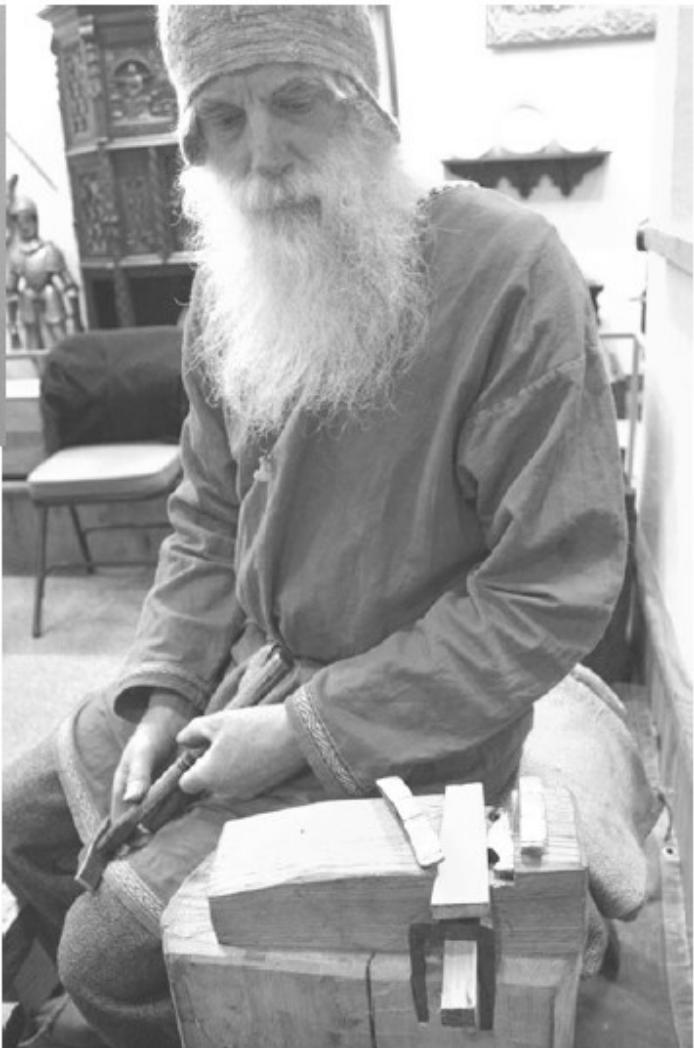
This 3-page article reprinted from the
March 2020 edition of "Metalsmith" the
newsletter of The Guild of Metalsmiths



Parts for a Viking style sword hilt I was inlaying as a demonstration at a *Meet the Vikings* event at The Casterock Museum of Arms, Armor and Art in Alma, WI. The wooden set up with the wedge was fastened to my hewn log bench to use in place of a vise.



Right: Demonstrating at the American Swedish Institute during the Viking exhibit inlaying silver wire in an axe head.





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I wanted to pass along this great opportunity for you to share with your members, which was made possible by our numerous generous donors. **The deadline to apply is February 1st, 2021.** [Here is a link](#) to the application for our scholarships. If your members or you have any questions regarding our scholarships or the application please email us at contact@centerformetalarts.org. Thank you!