

BOARD OF DIRECTORS

Gary Phillips '18 President:
14800 N SR 167 N
Albany, IN 47320
(765) 789-8316
behere@netdirect.net

Steve King '18
1155 S. Paoli Unionville Rd
Paoli, IN 47454
(812) 797-0059
kingknives@live.com

Bill Conyers '15 Vice Pres
50964 Lilac Rd,
South Bend, IN
(574) 277-8729
billconyerssr@yahoo.com

Bill Newman '15
4655 Williams Rd
Martinsville, IN 46151
(317) 690-2455
ruralsmiths1@yahoo.com

Dominick Andrisani '16
3608 Capilano Drive
West Lafayette, IN 47906-8869
(765) 463-4975
andrisan@purdue.edu

Ted Stout '16
8525 W 700 S
West Point, IN 47992-9258
(765) 572-2467
stout8525@tds.net

James Johnston '17
Education Chairman:
806 Twyckingham Lane
Kokomo, IN 46901-1885
(765) 452-8165
kokomoblacksmith@comcast.net

Keith Hicks '17 Secretary:
5184 State Road 252
Brookville, IN 47012
(765) 914-6584
keithhicks2011@gmail.com

Librarian:
Larry Rosentrad
8715 E. 375 N
Churubusco, IN 46723-9501
260-693-3267
rosentrad@cs.com

Editor:
Bill Kendrick
1280 N 900 W
Seymour, IN 47274
(812) 445-3009
bill.d.kendrick@cummins.com

Treasurer and membership secretary:
Farrel Wells
8235 E 499 S
Dunkirk, IN 47336-8807
(765) 768-6235
flwells@frontier.com

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.

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IBA MEETING SCHEDULE

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



Editors Message

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HISTORIC IRON

I hope your fall forging is going well. I have been out in the forge more in last few weeks than all summer. The cooler weather as well as supporting several local festivals gets me going. I definitely enjoy working at portable forge under a bright orange maple tree in the fall. It feels good to knock off some of the rust.

The satellite news shows that we have local fall festivals all over the state. If you have photos and information please share with us.

I was unable to attend last months hammer in hosted by Whitewater Valley Blacksmiths. Unfortunately I do not have any information on upcoming IBA hammer ins. **If you are interested in hosting an IBA hammer in, I encourage you to contact Gary Phillips by phone at (765) 789-8316 or by email at behere@netdirect.net** The state hammer ins have been sporadic this year. I do hope we can fill in more dates as we close out this year and move into 2015.

Max V. Williams submitted a very good article on forging a goosewing hewing axe. The design is meant to be scalable, so if you want a larger axe you can simple increase the dimensions by a fixed proportion. As noted in the article, a small axe can be forged with a simple tang handle attachment. The tang may not be strong enough for larger axes, so a socket would be appropriate.

Also included is an article from Bob Dixon Gumm, editor of the Blacksmith Guild of the Potomac newsletter. Any history buffs will enjoy this article on an old iron working site in western Maryland.

For you Facebook fans, the back cover has an announcement that the IBA has created a Facebook group. The Facebook group allows you to exchange news and information. As always, be respectful of others in the material you post.

If you are not a Facebook user, you can always send information to the IBA editor (email: bill.d.kendrick@cummins.com, phone: 812-445-3009 or mail to: 1280N 900W, Seymour, IN 47274)

Dates to Remember

Visit the IBA website at: www.indianablacksmithing.org

IBA Satellite Groups and News

Sutton-Terock Memorial Blacksmith Shop

Meet: 2nd Saturday at 9 AM
 Contacts: Fred Oden (574) 223-3508
 Dennis Todd (574) 542-4886

Wabash Valley Blacksmith Shop

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

Maumee Valley Blacksmiths

Meet: 2nd and 4th Saturday
 Contact: Clint Casey (260) 627-6270
 John Schamber (260) 579-7303

Rocky Forge Blacksmith Guild

Meet: 2nd Saturday at 9 AM
 Contacts: Ted Stout (765) 572-2467

Whitewater Valley Blacksmiths

Meet: 2nd Saturday
 Contact: Keith Hicks (765) 914-6584

Bunkum Valley Metalsmiths

Meet: 1st Saturday
 Contacts: Doug Neukam (812) 259-4430
 Steve Stoll (812) 486-9668
 Kathy Malone (812) 725-3310

Jennings County Historical Society Blacksmith Shop

Meet: 2nd Saturday at 9 AM
 Contact: Ray Sease (812) 522-7722

Fall Creek Blacksmith Shop

Meet: 4th Saturday at 9 AM
 Contacts: John Zile: (765) 533-4153
 Larry Singer (765) 643-5953
 Farrel Wells (765) 768-6235

St. Joe Valley Forgers

Meet: 4th Saturday at 9 AM
 Contacts: Bill Conyers (574) 277-8729
 John Latowski (574) 344-1730

The Southern Indiana Meteorite Mashers

Contacts: Billy Merritt (812) 338-2876
 Steve King (812) 797-0059
 Jeff Reinhardt 812-949-7163

One Armed Blacksmith's Shop

Meet: 1st Saturday
 Contact: Tim Metz (812) 447-2606

"Doc" Ramseyer Blacksmith Shop

Location: 6032W 550N, Sharpsville, IN 46060
 Meet: 3rd Sunday at 2 PM
 Contacts: Mike Kelley
 Charles Gruell (765) 513-5390

Jennings County Historical Society Blacksmith Shop

The Vernon Historical Society Blacksmith Shop opened with Charlie Helton working a piece of square stock demonstrating how to make a truly square corner, explaining when and why upsetting can be a good thing. Kenny Dettmer and Jim Watts worked together in making a Clayton's Knot. Jim showed his expertise in forge welding on the knot. Brad Simmons worked on a railroad spike knife, again. Leelynn Dean made a small snake from a horseshoe nail. Our Iron-In-The Hat was briefly interrupted by a filming crew who wanted to make us famous. (as if) Brad Weaver showed his method of making a particular type of candle holder .Brad and Charlie displayed the candelabra that we made for the conference. We had 21 in attendance ,(a rather good turnout.) Many thanks go out to those in the background that help out that never get mentioned.

Paul Bray

Advertisement:

Blacksmith Marketing Services

Blacksmith's Wife Marketing provides marketing and promotional services, in both digital and print, to the metal working community. Also providing website design and consulting services.

Contact : April Witzke
 PO Box 206
 Buckhorn, NM 88025
 Email: blacksmithswife@gmail.com
 Phone: (575) 535-4766
 Web: www.blacksmithswifemarketing.com

IBA Satellite Groups and News (continued)

The Southern Indiana Meteorite Mashers

The September meeting of the Southern Indiana Meteorite Mashers was held concurrent with the Milltown Indiana festival in lovely downtown Milltown. We had 2 forge trailers with Mike Mills bringing his newly finished trailer and Jeff Reinhardt bringing his. Butch Sparks set up with a bellows forge. At one point a P.A. announcement was made "3 Blacksmiths, No waiting". We had many onlookers and several recruits to the trade. A good time was had by all who attended. Thanks to Butch and Mike for setting up our spots and attendance and to Cathy, Mile's wife who fed us sandwiches on Saturday.

Our group will have a busy October as we have a group demo in Cannelton on Saturday Oct 11th. All blacksmiths are invited and there will be as much room as we need, the promoter tell-



ing us "we can have an entire city block, and that would be pleasing".

Our October meeting will be the 17th-18th-19th of October in lovely downtown Jeffersonville Indiana for Steamboat Days when the Brotherhood of Friendly Hammermen will be a featured performer each and every day. Ought to be a hoot! Come see us and visit a while.



IBA Satellite Groups and News (continued)

One Armed Blacksmith's Shop

The One-Armed Blacksmith Shop rescheduled its normal first Saturday October monthly meeting to September 27th to coincide with manning a demonstration booth at the annual Hope Indiana Heritage Days festival. Members Ken Dettmer, Jim Jesse, John McDaniel, and Tim Metz worked two forges on Saturday and Sunday providing demonstrations of the black iron trade.

Young festival goers were entertained by the hot-working of horseshoe and duplex nails into free baby ladles, finger rings, and miniature swords. Forging of more serious pieces attracted adult attendees, providing numerous opportunities to field questions about the One-Armed Blacksmith Shop, the Indiana Blacksmithing Association, and blacksmithing in general.

Sale of members' forge work was brisk while numerous on-the-spot commissions kept both forges working throughout the weekend.



One-Armed Blacksmith Shop booth at the Hope Heritage Days Festival, Hope, IN, September 27/28.



A truly "hot" chili pepper being developed in Tim Metz's portable forge.

John McDaniel - OABS Reporter

A Process for Making a Small Goosewing Hewing Axe

Max V. Williams

This article details a process for making a small and functional goosewing hewing axe. I chose to forge a tang-to-handle attachment for this axe rather than the traditional socket set-up. Forging a tang takes a lot less time, and it is sufficiently durable for an axe this size (3" x 9" x 3/8") If you want a larger axe than this, use a 4" x 12" x 3/8" blank and revise layout to fit the larger size, e. g., move center line of hole from 4 1/2" to 6"

Materials and Equipment:

- A blank cut from 01 tool steel (3" x 9" x 3/8").
- 4 gallons of new or used hydraulic fluid or 4 gallons of water/brine
- 12" steel or wood rule or tape measure
- scribe or scratch awl
- magnet
- forging hammer
- center punch
- permanent black or red marker
- 3/8" drill press or 3/8" electric hand drill
- drill bits: 3/8"
- 4"-6" or larger stationary vise
- coal forge and blower or gas forge
- blacksmith tongs
- handheld low rpm metal band saw, or angle grinder with carbide cutting disc, or blacksmith hot cutter
- anvil
- blacksmith coal
- grinding pad for angle grinder, or 4"-6" belt sander with 100-grit belt, or blacksmith cutoff hardie

8-Step Process:

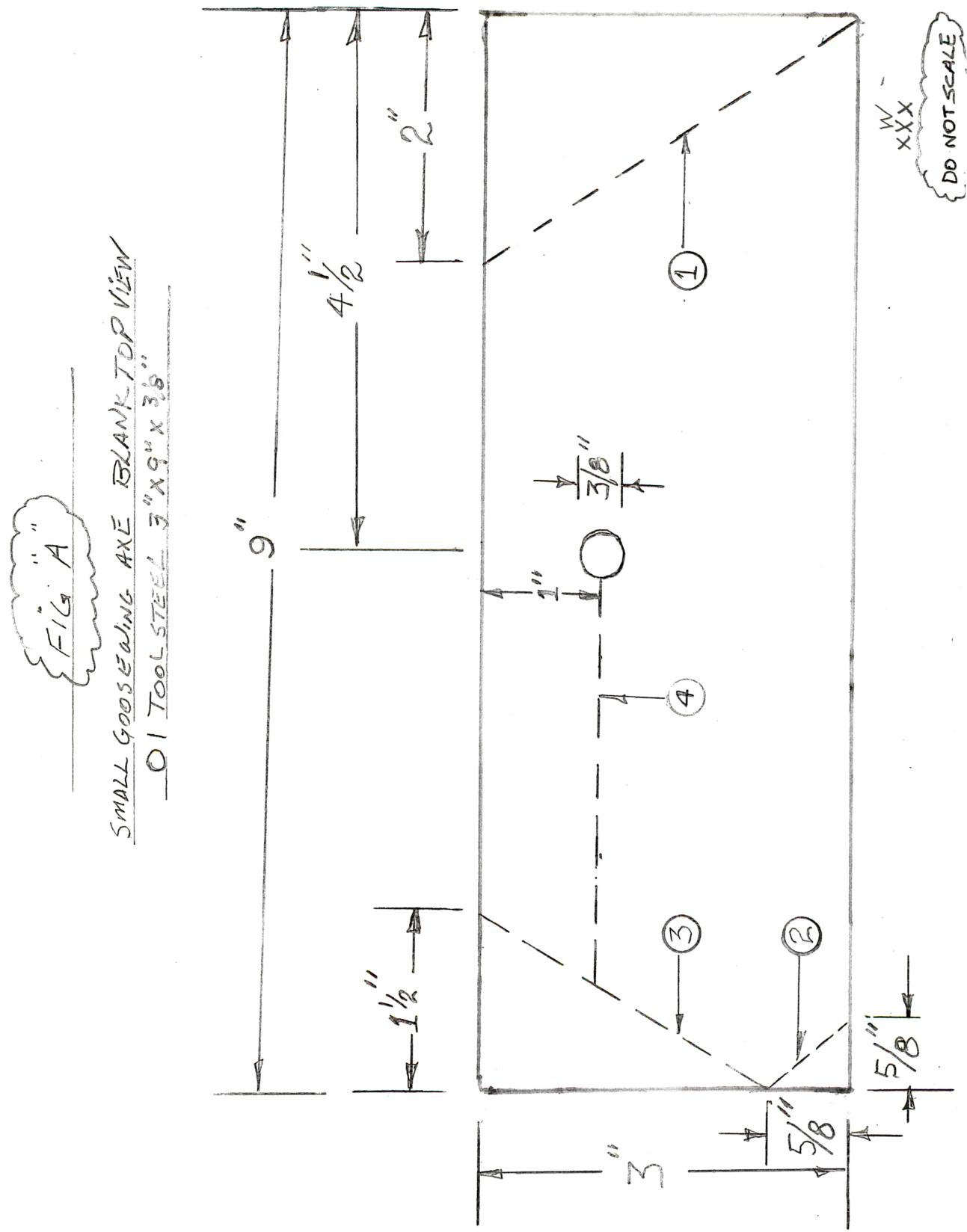
1. Cut a steel blank that measures 3" x 9" x 3/8".
2. Drill the 3/8" hole and then cut the dotted lines in seq. 1-4 as shown in fig. A.
Note: Choose your cutting method using tools listed in materials and equipment list above.
3. Heat your steel to a high heat (lemon color). Do not work steel with a heat less than bright cherry, about 1500° F. Bend steel to the position shown in fig. B. This is the start point for forging the tang.
4. Make another high heat and begin to forge (draw out) the tang as shown in fig. B. Note: The final shape of the tang will be your choice. The tang should penetrate your handle at least 2 1/2-3". If tang is too long, cut it off with the

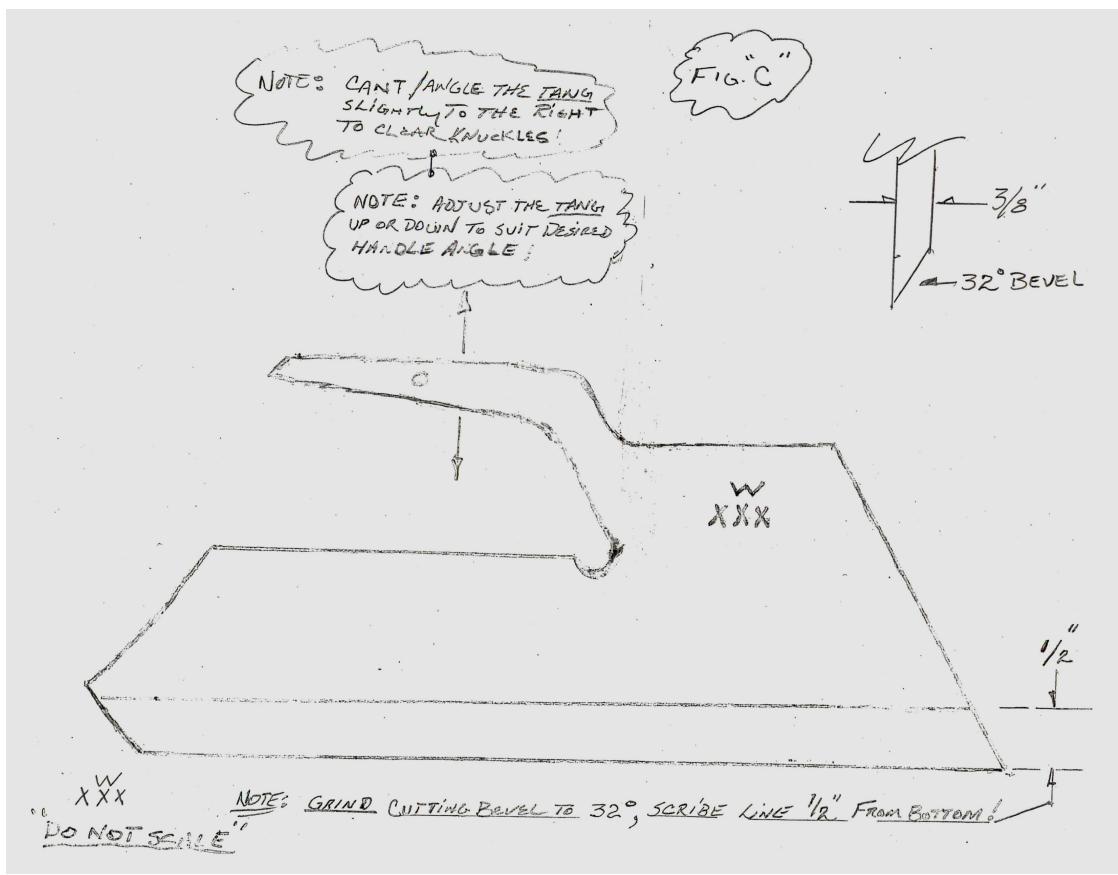
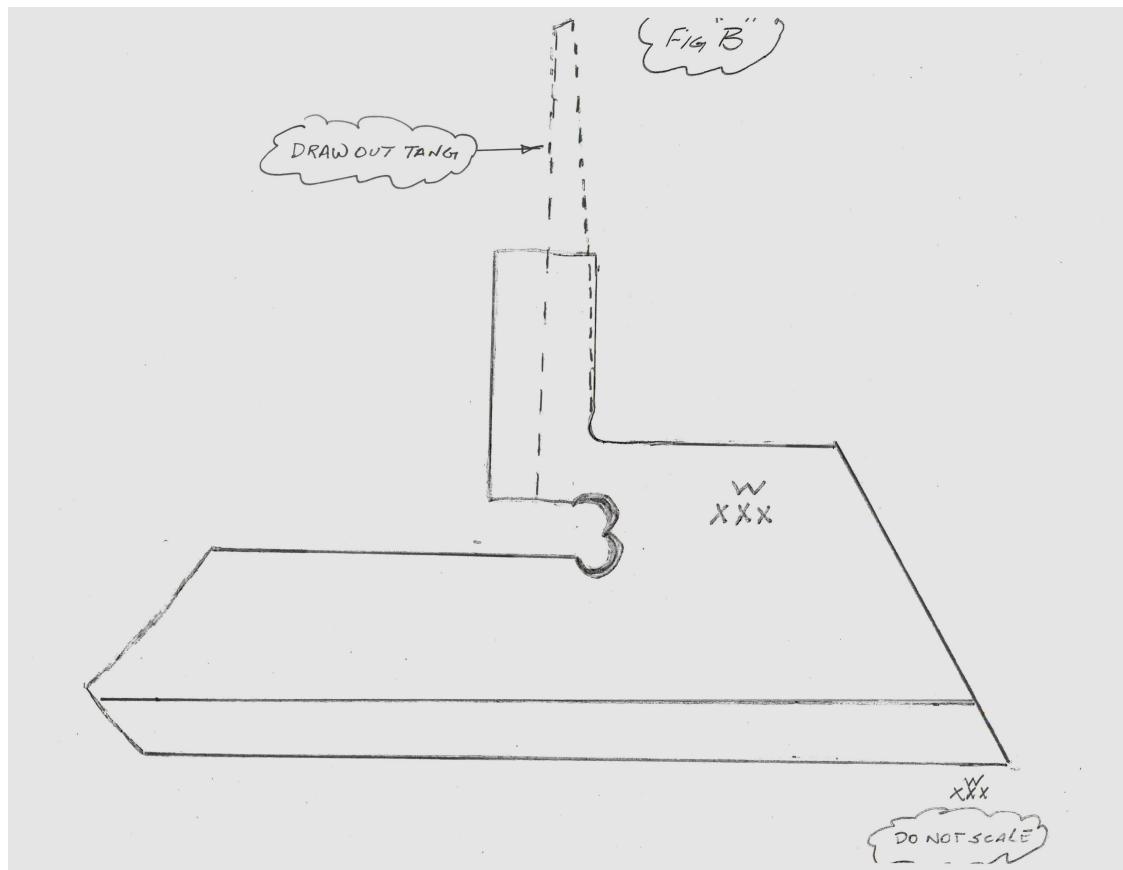
hardie at high heat. You can stamp your "maker's mark" at high heat if you wish. Take as many heats as necessary. Forging too cold will cause stress cracks or work hardening (steel crumbles).

5. Bring steel to another high heat and forge the tang to the position shown in fig. C. Adjust the tang up/down and right/left to achieve your desired handle position. You should maintain the tang thickness at 3/8" and vary the width of the tang from about 1/4" at the tip to about 3/8" where the tang first enters the handle. Always maintain steel temperature at a minimum bright cherry when working steel.
6. Use a straight edge to scribe a line as shown in fig. C. This will act as a guide for rough grinding the 32° cutting bevel. Radius all sharp edges and smooth out saw marks, or cut marks at this point. Do not radius lower cutting edge. Use the angle grinder or sander of your choice.
7. Heat treat the tool: To harden, slowly heat the steel to about 1450° F, bright cherry. Check with magnet. (Steel should be at point of transformation or non-magnetic). If steel is non-magnetic, note the color and return to fire for about 30 seconds to assure the temperature is high enough for hardening. Using the appropriate quench medium, remove steel from forge and plunge and completely submerge the tool into the quench. Keep tool moving until cool to the touch. The tool is hardened (brittle) at this point of the process, and you should proceed to the temper stage now. Lightly chuck axe into a vise and shine up both sides of the axe about 1 ½" from the bottom cutting edge up towards the tang. This will allow you to see the colors run to the cutting edge. Use a map torch and begin to slowly heat the axe, starting at the tang. Work the torch back and forth and downward. When you observe a peacock (purple) color running to the bottom of the cutting edge, plunge tool into the quench medium at once and cool to the touch. Heat steel slowly to allow heat penetration.
8. You are now ready to finish grind your axe (keep it cool) using finer and finer grit sandpaper or belt sander materials as you proceed towards a keen edge. Begin looking for a wire edge on your axe at the bottom edge, and at this point sharpen on a medium oil stone and finish honing with a finer stone like a hard Arkansas.

Reference:

Ray Larsen's *Toolmaking for Woodworkers*





Historic Iron

Bob Dixon Gumm

Throughout my life I have been a history buff. I love railroad and industrial history, and also military history and geology (which in itself is the history of the earth's creation and re-creation.) Every now and then I chance upon something that I never knew existed. During an archaeological tour in Vermont I learned of the Ely and Elizabeth mines. The Ely mine is situated on what was a geothermal vent in a sea that disappeared eons ago. During the 1870's, it was the most productive copper mine on the U.S. During one of our Vermont discussions, I told Bill Wojcik about the mine. He said that he was unaware of its existence, and never knew that Vermont had copper mines. And for good reason. The mines were long gone before he was born, and only a faint trace of sulfur spoil remains to tell the story.

Not long after this copper mine experience, I read an article in a Society for Industrial Archaeology newsletter on a rather obscure site in Western Maryland that made a major contribution to mining, iron production, and railroads in our country. The small village of Mount Savage was as quiet in the early 19th century as it is today. But things didn't remain quiet for long. Coal and iron mining began to take root in the early years of the century. In 1837, the Mount Savage Iron Works opened for production. Led by Samuel Swartwout, the company built two blast furnaces fueled by coke and a steam engine. A third furnace was built, but was never lined and placed into service. The iron works were located in close proximity to iron, coal, and fire clay resources. As production got underway, the sleepy hamlet grew, eventually reaching a population of 5000.

In 1843, the company built a rolling mill specifically for the manufacture of rails. Until this time, railroad rails were exported from England. But with two blast furnaces, iron refineries and puddling furnaces, a new rolling mill, and facilities for brick and coke production, the Mount Savage Works were the first to produce rails in the United States, and were the country's largest iron works in the mid-19th century.

The Mount Savage Iron Works had its ups and downs, but remained active through the Civil War years. However, by 1870, the works were closed and most of its facilities removed. The blast furnace and some of the company housing remain. The town of Mount Savage continued on after the closure of the iron works. In 1866, the Mount Savage Locomotive Works opened. It was initially a rebuild facility, but by 1868 the works began to produce locomotives. Soon they were manufacturing custom locomotives. The facility ceased production in 1917, but much remains of the shops.

In its heyday, the Mount Savage Locomotive Works had an impressive assortment of manufacturing equipment:

- Engine lathe, 28" x 8 foot bed
- Horizontal boring and drilling machine, table size 24" x 44"
- 18" x 48" engine lathe, C&P
- 18" x 24" engine lathe, C&P
- vertical boring mill 54"
- car wheel boring mill, 48" table
- 10" slotted
- wooden jib crane, 20' mast, 15' boom, 4.5 ton capacity, C&P
- punch & shear, 30" throat (used for rivet holes)
- 18" rip saw
- Lowell drill press
- Tice shaper/molder
- Fulton 500 pound power hammer (for forging)

Equipment list courtesy of Wikipedia

Inside the foundry. Erosion has buried much of the interior. The center held a steam engine, with furnaces located on either side.





U-shape rail from the Iron Works' early days



One and three quarters centuries of deterioration has taken its toll on the site.



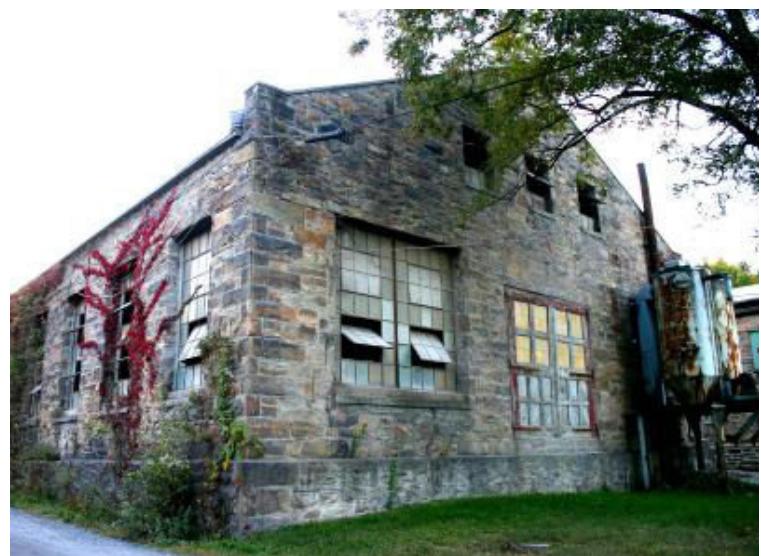
19th century view of the furnace site. Very little remains of the furnace on the right.



Mr. Earl Pope stopped working on his vintage tractors to provide Penny and me with an extensive tour of the town's historic sites. He even asked the local historian, Dennis Lashley, to pitch in!



A smokestack from the Brick Works



A shop building of the Mount Savage Locomotive Works.



The **FORGE FIRE**

Newsletter of the
Indiana Blacksmithing Association, Inc.

Farrel Wells *Membership Secretary*
8235 E 499 S
Dunkirk, IN 47336-8807

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IBA on Facebook

Hello everyone:

The IBA has created a Facebook group is designed to encourage INFORMAL COMMUNICATION among our members and among all people interested in blacksmithing.

The Facebook group name is "Indiana Blacksmithing Association (IBA)". Please feel free to "Join" the group on Facebook. It is a public group so anyone can post to it and anyone can join.

In your posts, please be respectful of others.

Please feel free to post photographs or create photo albums that relate to the mission of the IBA.

FORMAL COMMUNICATION about the activities of the IBA and our newsletters can still be found at our web site <http://www.indianablacksmithing.org/>.

IBA Webmaster (webmaster@indianablacksmithing.org)
Dominick Andrisani (andrisan@purdue.edu)
3608 Capilano Drive
West Lafayette, IN 47906-8869
Phone: 765-463-4975