



FORGE

Dedicated to the revival of the King of Crafts

Vancouver Island Blacksmith Association
www.viblacksmiths.com



Colin And Cameron General Blacksmith, Fashion Shoeing Shop, Pandora Street, Victoria .

Blacksmith Forges A Wizard

<https://www.youtube.com/watch?v=llM5ez6fgBw>

Forging an early Anglo-Saxon hinge on an Anglo-Saxon Anvil.

<https://www.youtube.com/watch?v=AhaRh-cEOos>

Current Events:

Monthly meeting Sunday, Sunday, November 27, 2016

No December meeting

2016 Executive

President: Neil

Gustafson

VP: John Archer

Secretary: Charlie Low

Treasurer: Norm Norby

Editor: Brody Smith

Publishing Info: "Forge" is published monthly by and for members of the Vancouver Island Blacksmith Assoc. General Correspondence for VIBA: 1040 Marwood Ave, Victoria, BC, V9C3C4 (or directly to appropriate executive member). Permission granted for reproduction of any part of "Forge" provided credit is given to the original source, and the item is not marked 'copyright' or specifically stated to be for the sole purpose of "Forge". Unless otherwise stated, the editors are the authors of all material. Disclaimer Notice: "forge" makes every effort to ensure accuracy of the information contained therein, but the executive officers & general membership of the Vancouver Island Blacksmith Association including the editors, specifically disclaim any responsibility or liability for damages or injuries as a result of any construction design, use, or application of information contained in this newsletter. The use of any information is solely at the user's own risk.



Secretary's Report

By: Charlie Low

January 2016

Show and Tell:

Jack Lindboe brought a massive wooden mallet which had been used for driving pieces of pipe, so the faces were a bit damaged. The consensus was that it would still do very well as an attitude adjuster.

Charlie L brought 3 hooks made that morning, all from different metals. They were designed to hang bird feeders from trees. He also brought the sorry results of his efforts to forge a couple of pieces of bronze. The first one, which had broken about 5 times, was obviously the result of overheating. The second, however, had never been heated to more than a dull glow. The consensus seemed to be that either it was a different material from what Dorothy Steigler had worked on during her demo, or that working in a coal fire may be a no-no.

Mika brought an admiralty pattern anchor, nicely made and suitable for anchoring a canoe or 12 foot aluminum boat. He also brought a neat little candle holder, a piece of about 3/8 x 1 inch with the ends tapered down and a hole in the middle- a minimalist candle holder and quite elegant.

New Members: Nick Erb

Financial:

we are still OK. We went into detail on the costs and returns from the recent demonstration. Overall, it cost about 2,000.00, of which some may be recouped through the sale of spare bronze. John A will store the left-over bronze and sell it at cost. There is 1/2 x 1/2 at \$4.54 per inch, 1 x 1/2 at \$5.61 per inch, and 3/4 inch round stock at \$0.45 per inch.

Old business: N/A

New Business: Ray pointed out that Skip and Elva have been hosting demonstrators, at no cost, for many years and moved a vote of thanks and a gift in appreciation. We decided that an appropriate gift, (pending an OK from Elva) would be a voucher for a dinner at Glen Rosa. The motion was passed unanimously.

Adrian has suggested that we do an anvil repair workshop in early spring, probably sometime around February. We would need to buy some welding rod, but apart from that it will be a no-cost affair. There was a suggestion that if people bring in ratty, beat-up anvils, they would serve as demonstration items. It was also mentioned that there are anvils in the shop that would benefit from a bit of a tune-up. Storage of welding rod was mentioned as a problem, There was a lot of heavy welding rod in the shop, but the bags it was in were opened and not reclosed, so all that rod is spoiled. A storage cabinet for welding rod would not be a difficult thing to make, being merely a cabinet, preferably insulated and reasonably tight, with a light bulb inside to keep it at 120 degrees F or above.

Shortly after that we adjourned.



Have something you would like added to the newsletter Email it.

Arcingbrody@gmail.com



Charlie L



Brass over heated



Mika



Mika



Mika Candle holder

Next time you see Neil, Willy and Benoit buy these guys a beer, for getting the power back up and running. Next time your using the hammer make sure you inspect the wedges have not loosen. If they have the arm on the power hammer can make contact with the frame and snap, that's what happened here. Also make sure you oil all the points marked in yellow befor every use and remember no power hammer use after 9pm. If you unsure at all ask.



Dorothy Steigler's demo, Oct 22 and 23 '16 for VIBA was incredibly interesting. She did some hammer work, working in bronze, showing us the possibilities and pitfalls of that material. She made a hummingbird out of 3 inches of half inch round stock and a scroll in half by inch flat stock, of known analysis, silicon bronze, (655?). On the Sunday morning, Norm brought in some material which appeared to be bronze, and we set Dorothy the test of determining whether it was forge-able. She mentioned bronze with bismuth in it, extensively used in bus bars in large electrical systems, as being dangerously poisonous. The mystery metal did not appear to have any bismuth, but looked like marine grade bronze. She did some forging on it, making a leaf, and found that it could be worked quite a lot hotter than the regular bronze and that in general, it was good material to work with. This was a happy thing, as there is quite a lot of it. Most of the Sunday afternoon was a slide show of some of the jobs she has done. I was gobsmacked- there were works of art there that only millionaires could even consider. Thanks to the volunteers who made this event a success. Dan C audio equipment was quite handy. John A feeding the troops with a large amount of burgers.

By:Charlie Low

Thank you.



Dorothy Steigler



Dorothy Steigler



Dorothy Steigler

History lesson: Katana myths dispelled
by IPostSwords



My name is IPostSwords, and today I'm gonna give you all a history lesson.

FP edit: Send swords.

Today's topic is Nihonto, or Japanese swords. You might be familiar with the Katana, the most famous of these. Pop culture has produced many myths, and I'm here to set the record straight. (Disclaimer: this is not my field of study).

Lets get this out of the way: Katana were not magic, could not cut through other swords, or gun barrels, or stuff like that.

They are not even amazingly sharp, light or well balanced. They served their purpose, and filled a design criteria dictated by material availability.

SOME myths are true. Katana were tested on the bodies of prisoners. Muramasa swords did have a reputation as being bloodthirsty. Story about this is below.

If you crave more, here's a case study on a tachi:

<http://imgur.com/gallery/XJX4N>

Tatara in Action

Japanese swords (Nihonto) were made in a specific way not because it produced the very best of swords, folded 1 million times, able to cut through tanks or whatever other bullshit you're heard. Nihonto were made because Japan lacks iron. Nothing more, and nothing less.

To combat this shortage, Japanese smiths used Tatara forges to turn iron sands (you know those black streaks of sand on the beach?) into useable steel, which they then sorted based on quality. The process was involved and complex, and produced steel around 1% carbon, comparable to the steel used in swords in Europe at the time.



Tamahagane Cross Section

This is a cross section of some tamahagane, the steel produced from tataru forges. It is unclean, impure and has many inclusions and cavities, all of which produce a certain pattern when the spongy raw steel is pounded into a more homogenous form.

At this spongy stage, the lumps of steel are sorted based on quality. Those with high carbon contents are used for the edge, and the low carbon segments form the spine of the sword.

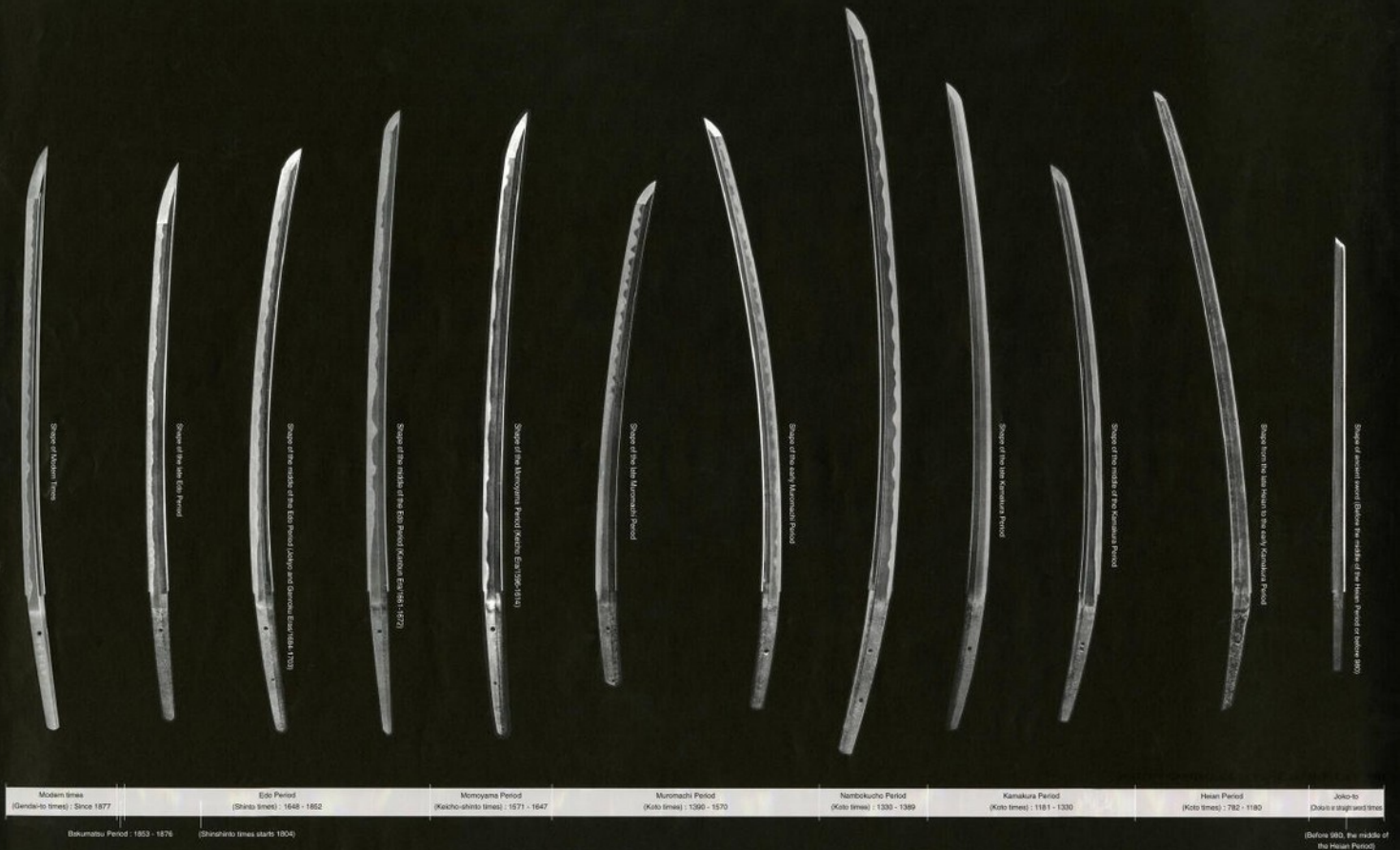


Chronology

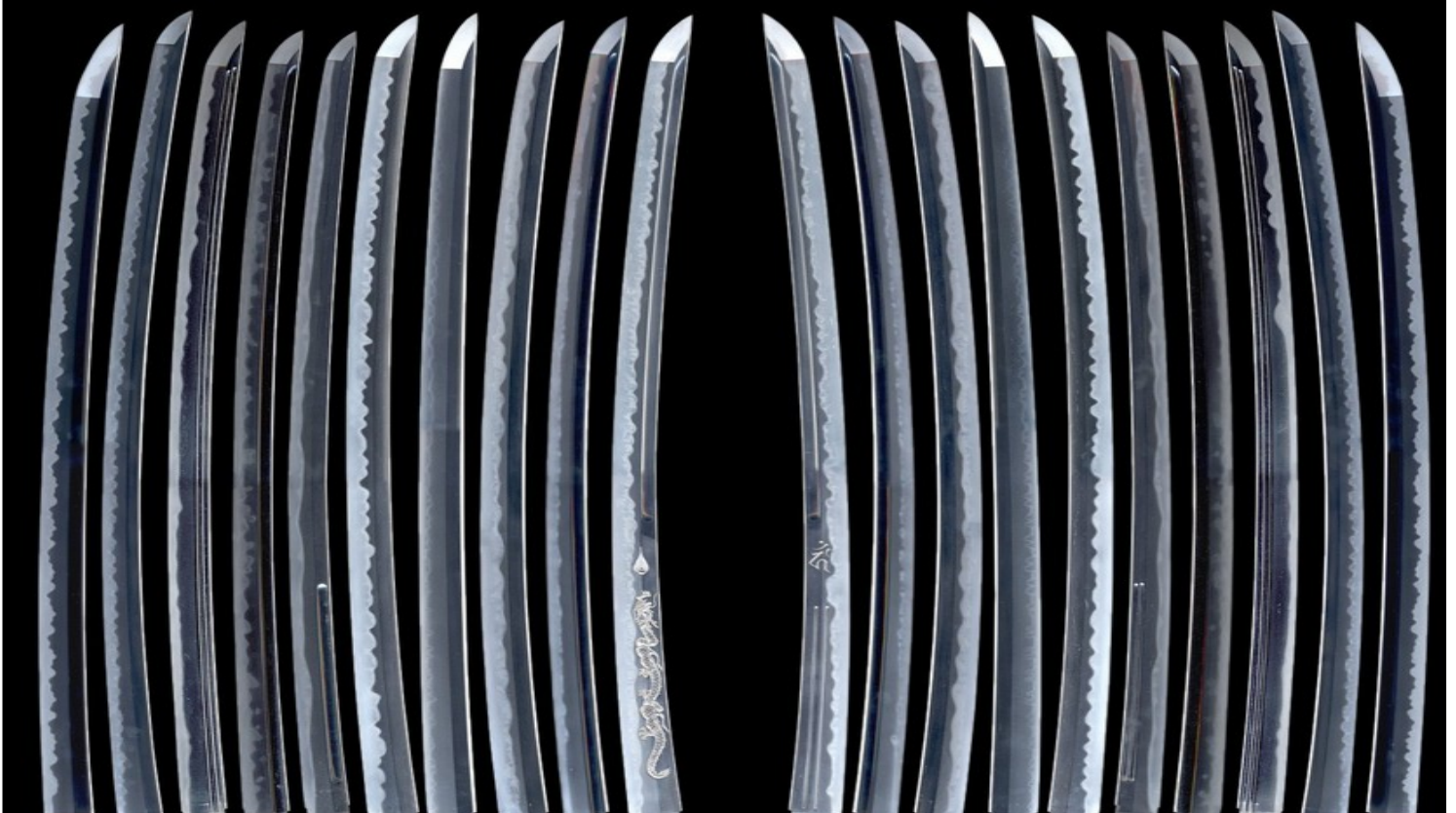
Another myth is that the Japanese swords never changed over time. Although it is true that they didn't change as drastically as swords in Europe they did go through many subtle changes over the centuries. In this picture the oldest shapes are on the right while the newer shapes are on the left.

It is worth noting that even the early katana were mostly sidearms. The battlefield was always dominated by the bow, spear and other polearms.

CHANGES IN THE SHAPE OF THE JAPANESE SWORD



Even subtle variations exist, including the hi (groove, or fuller in the blade) or the sori (curvature), or the particular shape of the tip. While we're here: The Muramasa Sengo story. "In 1535, Kiyoyasu, grandfather of the first Shogun Tokugawa Ieyasu, was struck down by his retainer Abe Masatoyo. Kiyoyasu was said to have been cut in two by the Muramasa blade used by his attacker. In 1545, Matsudaira Hirotada (Ieyasu's father) was attacked and killed by Iwamatsu Hachiya, a retainer of his wielding a Muramasa sword. Ieyasu as well wounded himself badly with his own wakizashi (short sword) bearing Muramasa's signature. When Nobuyasu, the son of Ieyasu, was ordered to commit seppuku by Oda Nobunaga in 1579, the blade that was used by his second to sever his neck was a Muramasa katana. The last event was after one of the generals of Ieyasu (Oda Kawachi no Kami) put his yari (spear) through the severed head of an opposing general after the defeat of Ishida and Konishi in Keicho. One can almost imagine the sigh, as he pronounced that this yari must have been made by Muramasa. It was, and that yari sealed the fate of Muramasa blades as far as Ieyasu was concerned." Having had enough tragedy come to his family via one craftsman, Ieyasu banned the possession of Muramasa swords.



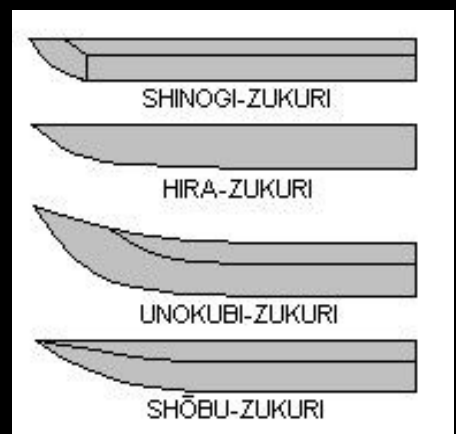
Just the tip.

This image shows variation in tip shapes. They were further divided into lengths, Chu (medium), O (long) and Ko (short).

Sword Cross Section

The difference between the softer, shock absorbing core steel and the harder yet more brittle skin steel can be seen quite clearly in this picture. This is one of many potential patterns of steel lamination the Japanese used.

One side effect of this design is that if the sword bends during a cut, or during any other event in combat, it will stay bent until repaired. European (monosteel) swords were spring tempered, sacrificing an insignificant amount of hardness for much better durability in this regard. It is worth noting that blades in Europe were pattern welded as early as the 3rd century, and it was used both for decoration and to blend hard elements with softer elements. This was not unique to Japan.



| Hagane (Hard Steel) | Kawagane (Medium Steel) | Shigane (Soft Steel) |
|------------------------|----------------------------|-------------------------|
| | | |
| Maru | Kobuse | Honsanmai |
| | | |
| Shihozume | Makuri | Wariha Tetsu |
| | | |
| Orikaeshi Sanmai | Gomai | Soshu Kitae |
| | | |

| | |
|-------------|---|
| Maru | not laminated; poorest method |
| Honsanmai | most common lamination method |
| Kobuse | method used on swords from WW2 period |
| Soshu Kitae | seven layers method; used by famous sword smith, Masamune |

Here is an expanded view of different lamination methods.

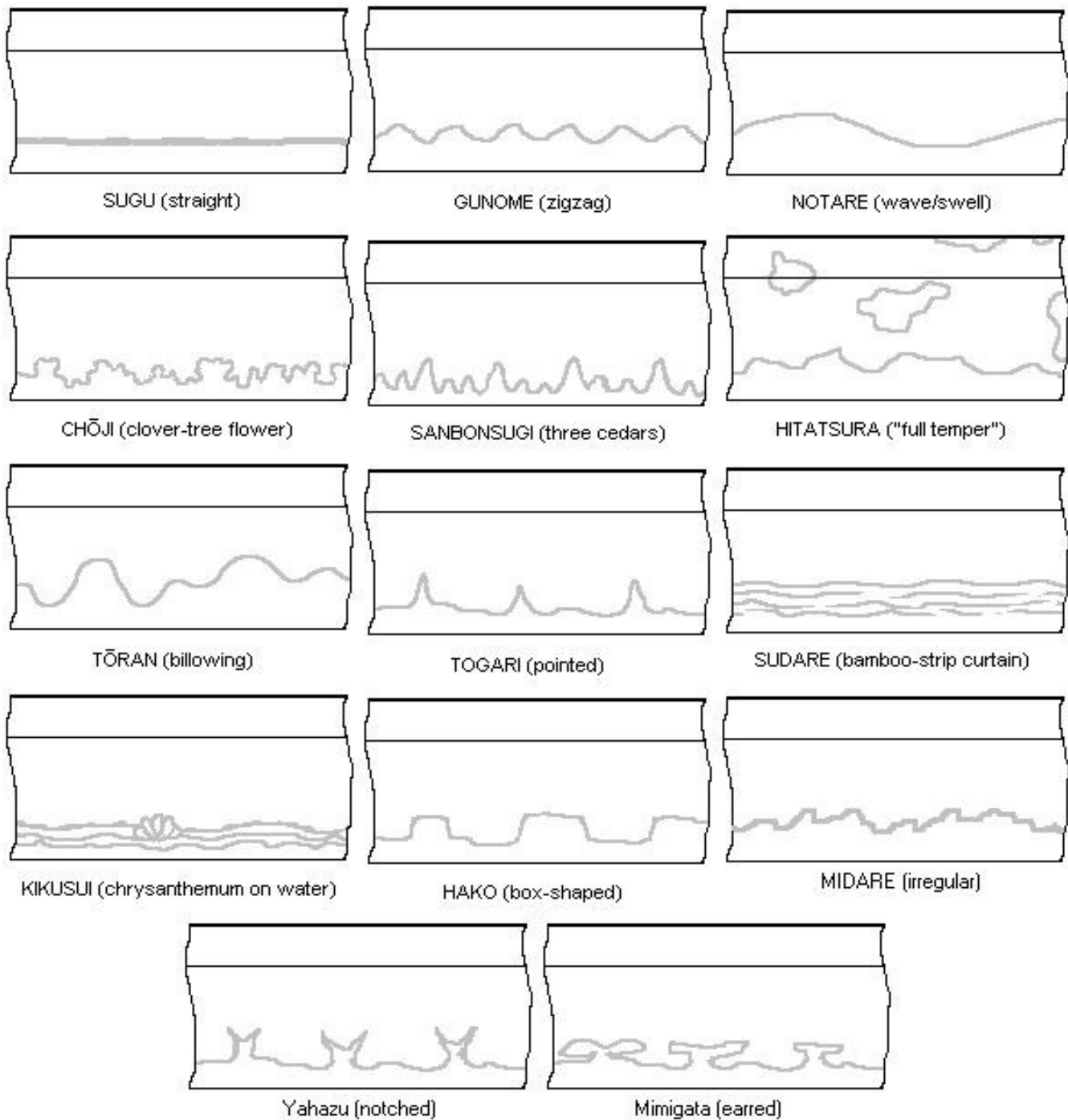


Hamon - Temper Line Patterns

The bright often wavy line along the cutting edge is called the "hamon." This is due to crystalline structures in the steel (martensite). This steel is extremely hard and can hold a very fine edge but is also rather fragile, having a high Yield Strength, hence why it is only found along the cutting edge of the sword and is supported by a softer spine.

The temper line is created by applying clay to the blade, heating to critical temperature (when it loses its previous crystalline structure, becoming austenite and is no longer magnetic) before finally quenching the blade in water. This converts the steel of edge to hard Martensitic crystals.

This process is called "yaki-ire."



Types of temper line. This was mostly cosmetic, having little effect on performance between variations

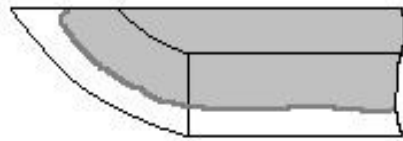


Katana by Yosozaemon Sukesada. Note the hitatsura, or full width hamon

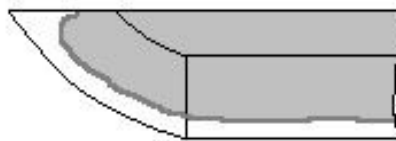
BOSHI

The **boshi** is the tempered part of the sword point (kissaki).

Some of the more common styles of boshi are:



KOMARU (small circle)



ŌMARU (large circle)



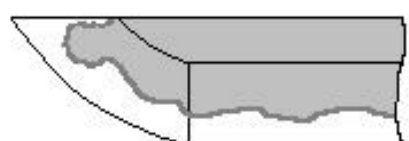
MIDARE-KOMI (irregular wavy)



HAKIKAKE (brushstroke)



YAKIZUME (no turn-back)



JIZŌ (shaped like Buddha's head)

Hamon as it pertains to the kissaki or tip.

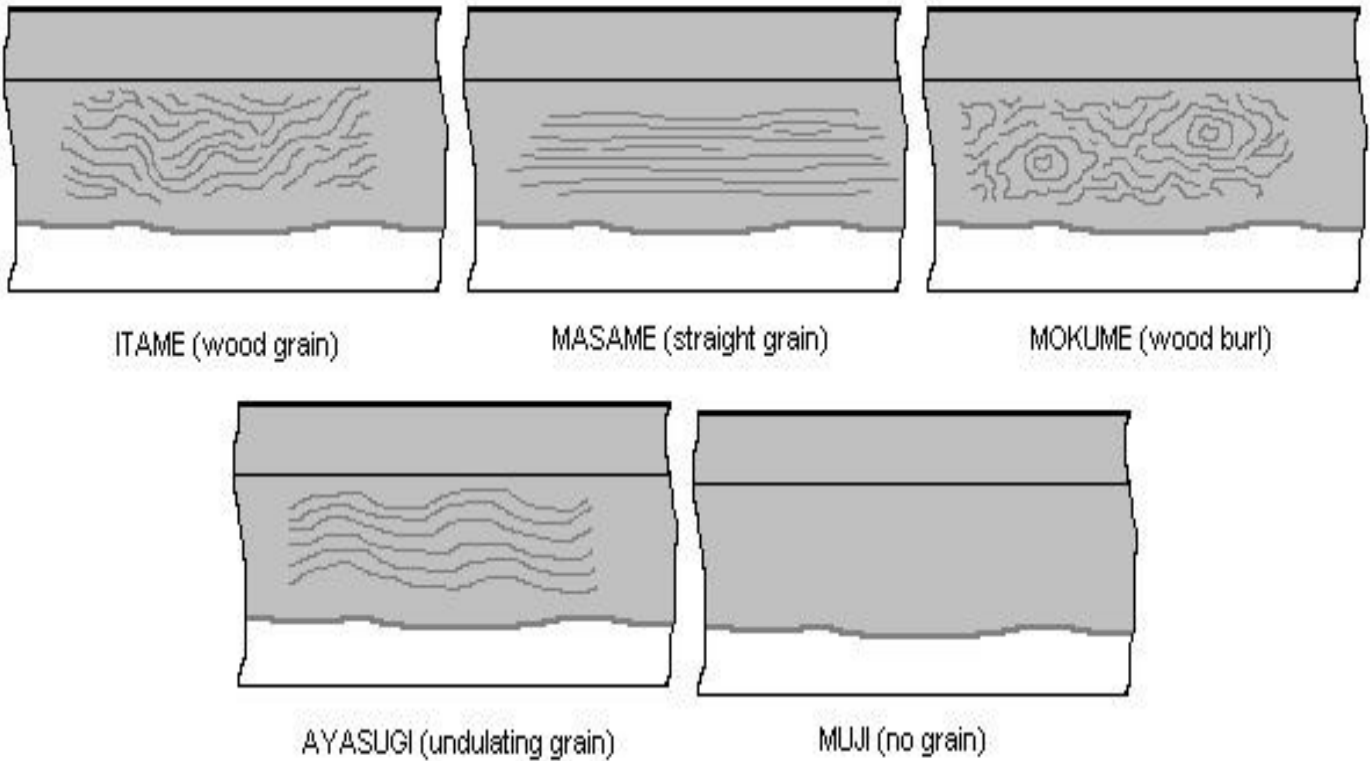


Quenching a differentially hardened tachi blade

Source: Man at Arms / Awe Me youtube channel.

A tamahagane tachi with clayed spine being quenched.

Explanation: There is thick clay over the spine of the blade, causing that area to cool slowly. This causes the edge to shrink faster, thus the initial downwards curve. The secondary upwards curve occurs because the spine is thicker, so when it finally does cool to the same level it overcomes the earlier curve (more heat stored in the spine than the edge.)



Hada - Steel Grain Patterns

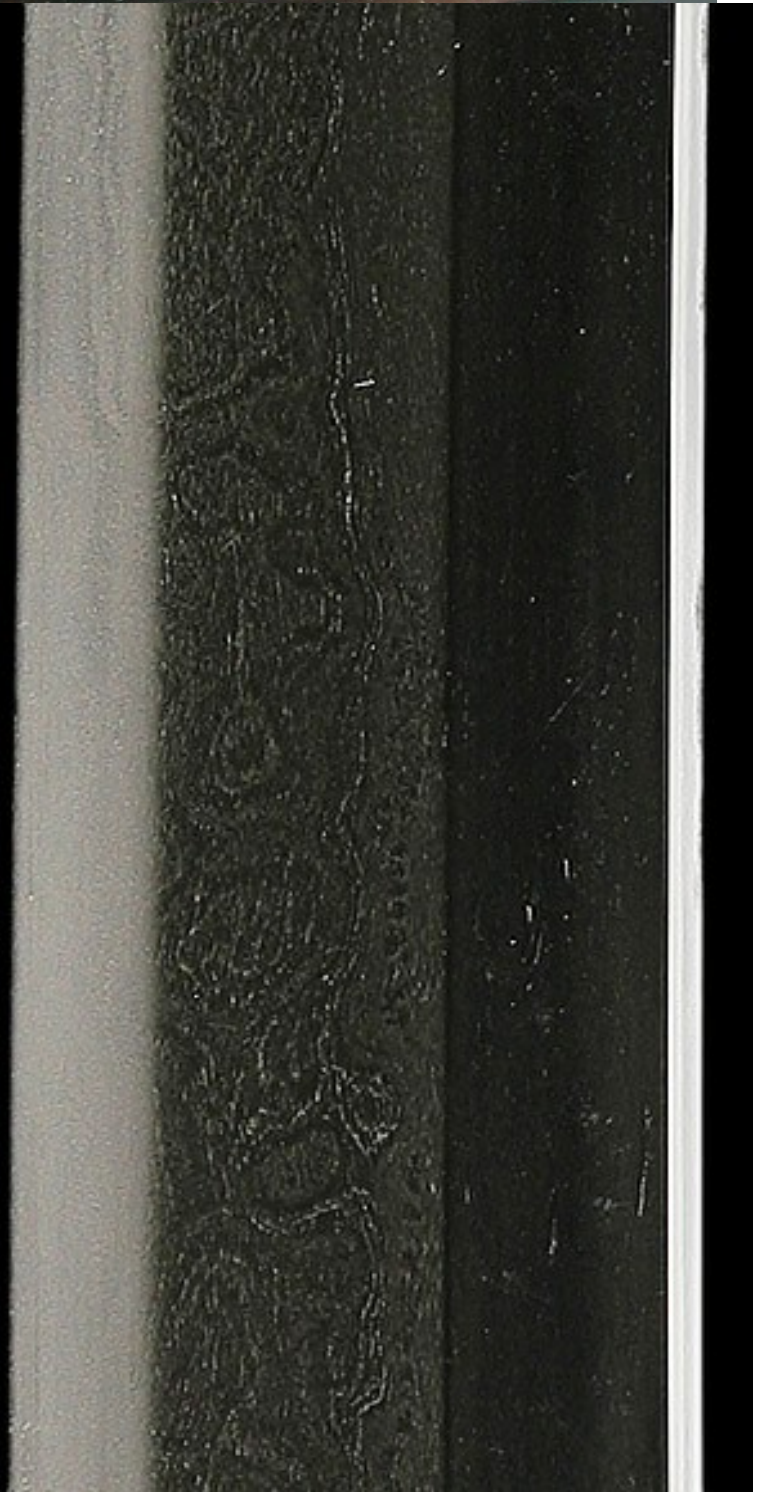
During the forging process the steel will be folded under the hammer multiple times in multiple heating cycles. Some people seem to think this was done thousands of times. The truth is much less fun: 10-20 folds, with the average falling around 16-17. The layer count however grows exponentially, so after 20 folds there are indeed about 1 million layers.

This layering effects were mostly cosmetic, which some smiths having signature styles. The folding itself homogenizes the steel, reducing inclusions and impurities.



An example of ayasugi grain. (TOP)

Close Up of
Matsukawa Hada
This image shows
shows
"mokume/itame
hada" (often
described as
resembling burled
tree bark). (RIGHT)

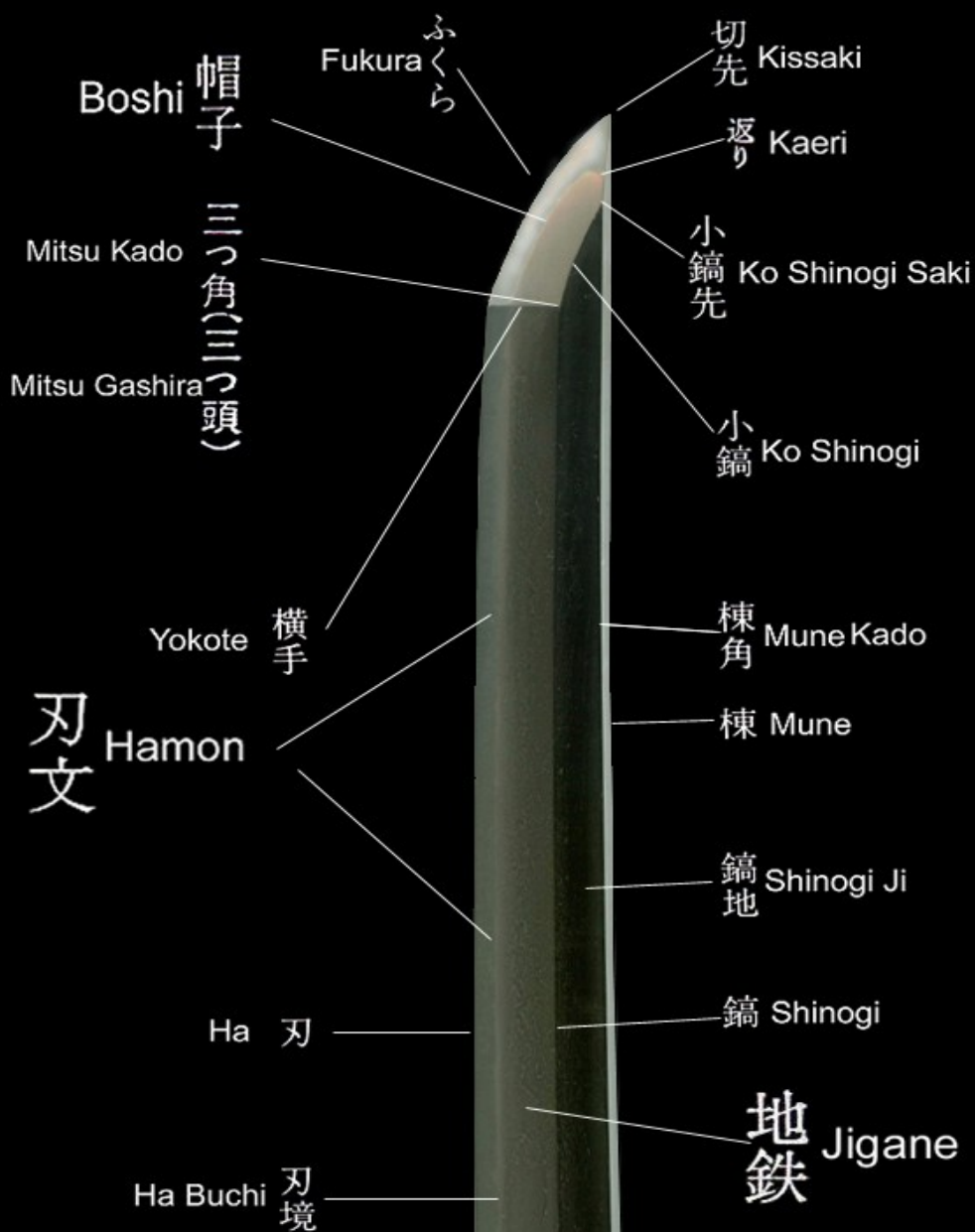




Another decoration method was Horimomo, and involved carving into the steel. Many elements were possible including dragons, bamboo, blossoms or even shishi lions (hattori hanzo used this in Kill Bill)

Some labelling and terminology

(RIGHT)



Nakago 茎

Ha Machi

刃区

棟 Mune

棟区 Mune Machi

Yasuri Me

鑿目

目釘穴 Mekugi Ana

銘 Mei

Nakago Shinogi

茎鎬

Nakago Shinogi Ji

茎鎬地

茎尻 Nakago Jiri

I would like to send a special thanks to ipostswords for allowing me to share please check him out on

Reddit click here

<https://m.reddit.com/user/Irrissann/activity?activity=submitted>

Imgur click here

<http://imgur.com/user/IPostSwords>

Since Christmas is coming up, I would like just combine 3 issues into one big issue. Here is bunch of great Christmas ideas some of these would be great for the sales bin too.



November 2009

The Florida

Clinker Breaker

Florida Artist Blacksmith Association - Established May 18, 1985

Report from the Northeast

Mitchell Widham

The NE meeting (Oct. 3) had 33 folks sign the roster, although we didn't have any planned demonstrators, just open forges and Conference prep. We had lots of activities going on. Allen and Thurmond showed the group how to make an Iron Ribbon out of a 32 inch piece of flat bar. I think that this would be a big hit with the ladies, especially those of us "In the dog house". Steve Estenson did his tong making demo



Iron Ribbon by Allen Hardwicke & Thurmond Chaffin.

A Christmas Star

Created by Joe Wilkinson

Reprinted from BAM Sep-Oct 2003

A few minutes of observation of the pictured candle holder quickly reveals the finished product is made up of 9 identical elements plus 2 half elements to complete the base. The elements look like this

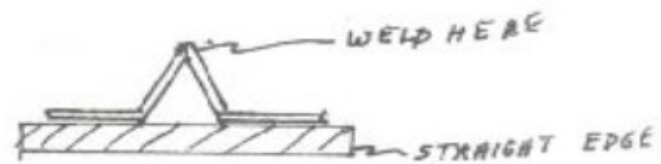


Now all blacksmiths know our greatest challenge is to make 2 or more identical elements, therefore we need a jig. I made mine from a piece of 2in angle iron about 7 in long, so I could clamp it in the vise. It looked something like the sketch "A" below.



Next cut 9 pieces of 1/4 in round stock 6" long. Place 1 piece in the jig and using the torch, make a tight bend exactly in the center. Heat the bend so there will be no spring back. Now reverse the stock in the jig to be certain it is bent in the center— if it is off a little, either adjust the jig or adjust the length of your stock, they must be exact.

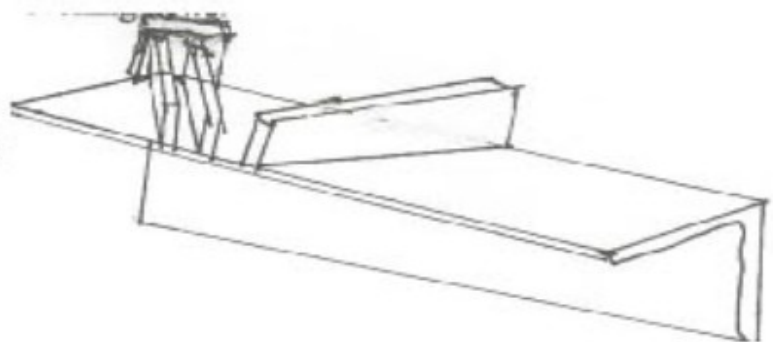
Now lay 2 elements against a straight edge and weld the center tips.



Repeat with the other 3 pairs of element.

We now have 4 and one-half larger elements. Lay 2 and one-half elements flat on your welding table and form a flat star—tack the joints together. In my shop I keep a 4 in deep rectangular pan of dry sand next to the welding table. Stand the first star upright in the pan. Next position the remaining 2 elements in their appropriate position, getting as close to perfect as your eyeball will let you. Now tack weld at the top and remove from the sand pan. Check for alignment and adjust as necessary, heating the tack welds with the torch so you don't break them.

Now add the 2 half elements at the bottom to complete the second star. Reinforce all tack welds as necessary to complete the stars. All that remains is to make 5 candle cups and weld in place. Sweep up, wash your hands and you still have time to catch the evening news.

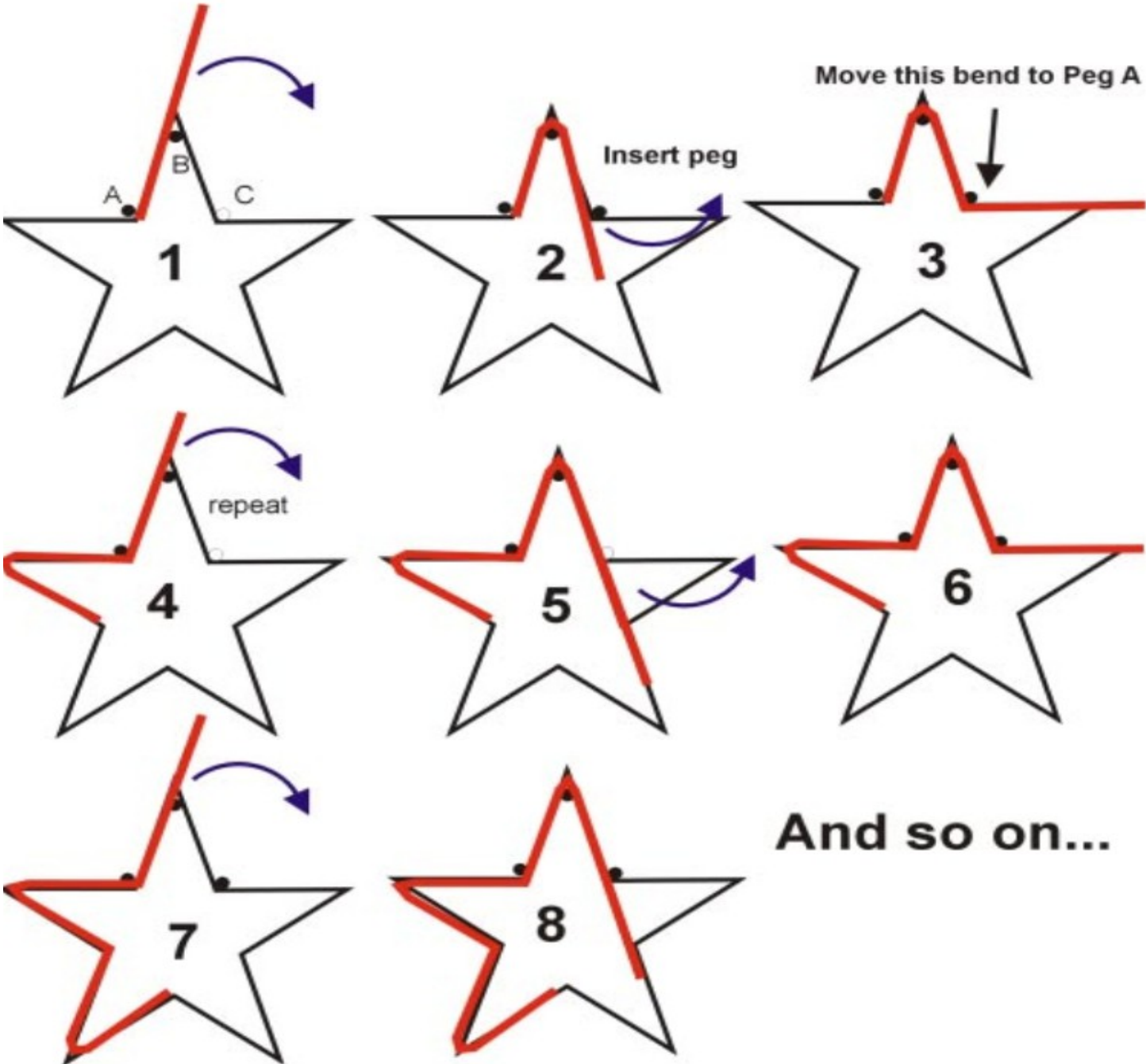


Joe

Christmas Star (revisited)
Steve Bloom

The original article was based on welding the stars together from a bunch of small segments. When I was working on the proof, it occurred to me that a simple jig with one removable peg could be used to fabricate the star from a single piece of material. I suspect that a torch would be the way to go and be real careful with that moving peg -- they pick up heat in a heart beat and are more than generous enough to share it with your fingers.

Gary Kemp asked me to clarify the angle mentioned in the article from the last issue. It turns out that a mathematical proof can be created that concludes that the angle is a simple function of the ratio of the base of a peak of the star to the height of the peak. If you are interested, drop me an e-mail and I'll send you the proof but the bottom line is go with looks good to your eye when you sketch it out and then just measure the angle.



Three for Christmas by Roger King

Are your relatives wondering what you will be doing in the realm of forged iron for this Christmas? If so, you are like me, and are looking around for projects suitable for giving or holiday decorating. Here are three projects that caught my eye. I've tried all three, and my report on the results follows.

1—Jingle Bell

My grandpa, who was not a blacksmith, but rather a farmer, had a set of harness for his sleigh with bells similar to this design. This makes a nice decoration, or possibly a gift for someone who will not ring it too much in your house.

I cut the pattern out of an old 16-gauge steel sign, making the rough cut with a hacksaw, and then using a grinder to work to the layout lines. This took about a half-hour. For the sinking tool, I used 3-inch ID pipe, the closest size I had, and a 2-inch trailer hitch ball. The article says to use 2 1/4-inch pipe in the sketch, and 2 1/4-inch in the text. I began dishing the blank in a swage block before driving it through the pipe, which I think helped keep it centered on its way through the pipe. With a 3-inch pipe, it went easily, but I would like to acquire a smaller pipe before I do the next one. You can see somewhat squared corners on my bell, which may be because more of the finish bending had to be done by hand with small scrolling pliers.

I didn't like the idea of a welded-on ring, so I made a stem with a tenon, and bradded it through a 3/16-inch hole in the bell. Don't forget to work the stem, too. I textured mine with a vine bark swage. The stem seemed tight at the time, but later loosened somewhat when I worked to close the petals of the bell. In retrospect, I could have welded the stem on the *inside* of the bell before closing the petals. It took some fussing to get the petals closed nicely using a small hammer and pliers because I couldn't always get a good grip on the petal where I wanted to.

2—Iron Candy Canes

I made the candy canes two at a time, starting with 22 inches of 1/2-inch round stock. I basically followed Steve Anderson's original directions except that I grooved all 22 inches, working to the middle without tongs, then cooling one end and doing the other. It was not hard to put the twist on all 22 inches, and then cut it up into two canes. Cutting it on the hot cut is essential to the look of the ends.

The main challenge this project created for me was the 2-3 hours I spent making a spring groover (see the picture). Without three hands, I thought I would make this tool rather than fumble with the piece, a chisel, and a hammer. Since I don't have much experience with spring tools, it took some fooling around to learn how to use it. My conclusion is that the spring groover should be adjusted so that 1) the chisel is lightly resting on the work piece, and

2) is square to the work piece. I found that if the chisel was mis-aligned or mis-struck, it would chatter wildly, mark the cane in multiple places, and bend up the spring worse than it already was. If I were to make another spring tool, I would use stiffer stock for the spring. With care in use, and realignment every cane or two, the spring groover did the job for me with only two hands.

One other thing I found was that, even if you botch the grooves fairly badly, go ahead and twist it anyway. The outcome does seem to get better after the twist.

I left several of the canes lying on the counter, and in the morning I heard my daughter's unbiased, candid reaction; "Oh, cute!" This was followed a few minutes later with, "But what do you do with it?" You can judge for yourself. I've made eight of these.

3—Christmas Bow and Wreath Hanger

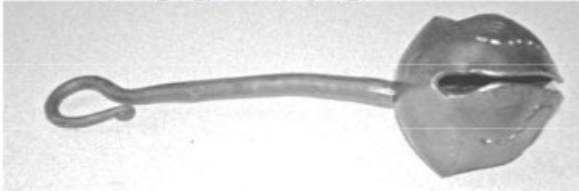
The Christmas bow and wreath hanger is clearly useful as a decoration or as a gift. I couldn't resist the opportunity to decorate the ribbon part of the hanger before tying the bow. The pattern I used only needed a center punch and a small chisel, but added another dimension to the project. I feel that if you're going to the trouble to make the piece, you should leave specific evidence behind that you were involved!

I used the material recommended for the bow and wreath hanger - 1/8 by 1-inch rectangular stock, but don't cut the collar until you have measured for it. The stated length of 1-inch has to be a typo. The collar should be cut to the perimeter of the work, all the way around, plus two thicknesses of the collar material. In my case, this was about 1 1/2 - 1 3/4 inches. I also modified the dimensions slightly, as shown in the sketch. The collar adds to this piece, and in order for it to fit well, the section fullered in the center of the 28-inch piece of stock should be just long enough to accept the collar. This was 1 inch in my case. Also, remember that you will need to drill a rivet hole through this section, so be sure it is kept wide enough to accept your rivet without weakening the section too much. The other change I made to the directions was to be sure that when the ribbon ends are bent down at 90 degrees, that at least a 1-inch straight section of fullered stock is kept before each of the bends. When the bow is "tied," these 1-inch straight sections will lap over the 1-inch fullered section in the center of the stock. These overlaps end up at the back (wall) side of the hanger, and the rivet hole is drilled through all three pieces as well as the collar placed around them. This means the width of these sections should also be controlled to allow for the rivet hole. The given directions suggest a 5/32-inch hole and an 8d nail for a rivet; I used a 3/16-inch rivet that was already on my bench, but held my breath as I drilled the hole. I had only left the center section "a little more than 1/4-inch wide." These comments are illustrated in my two sketches.

Christmas items mentioned in the previous article on page 9 and by Roger King



1—Bell (hanging) ↑ (laying down) ↓



3—Wreath Holder (wide) ↑ (longer) ↓



2—Candy Canes (laying down) ↑ (hanging) ↓



Groover for putting the lines in the candy cane ↓



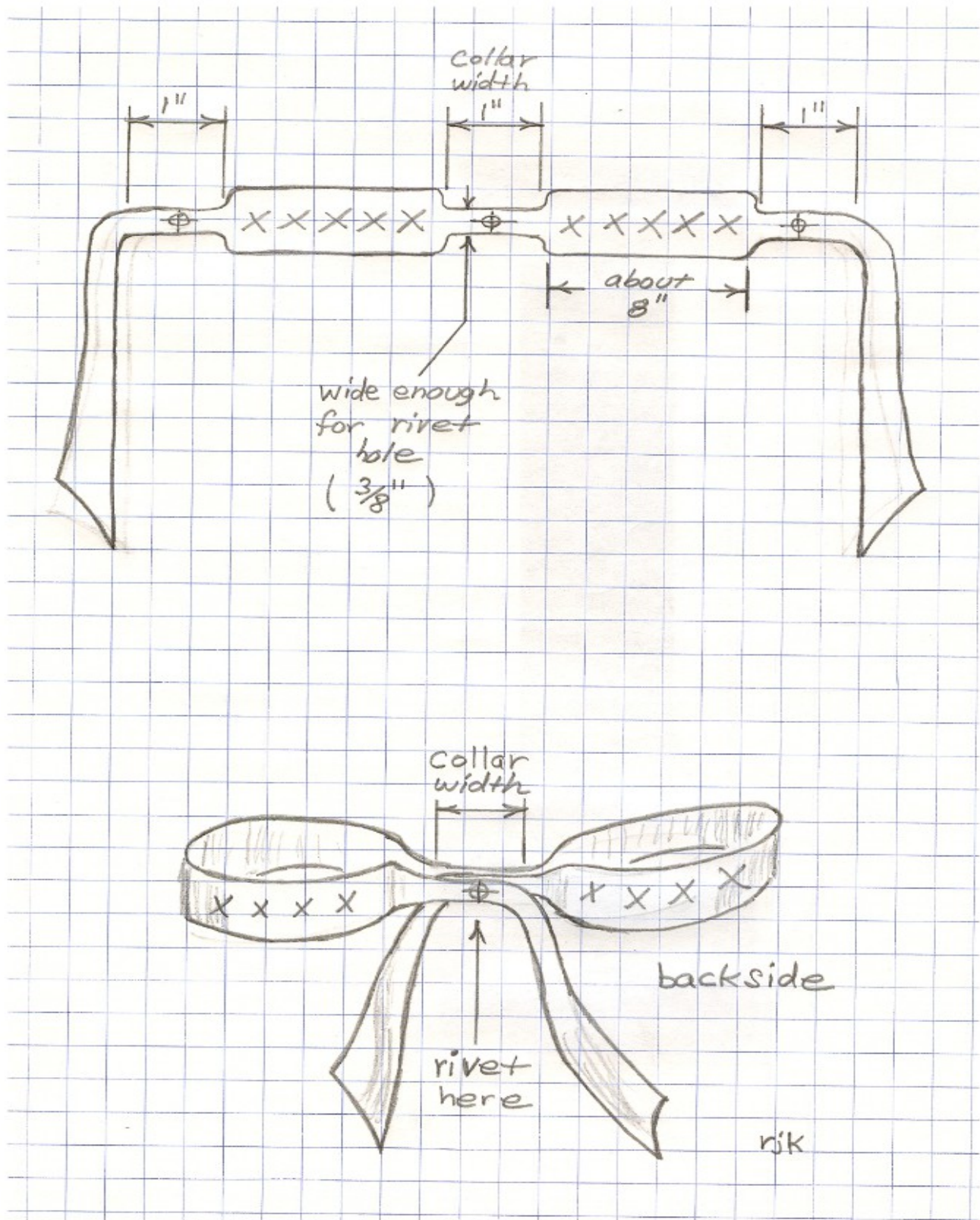


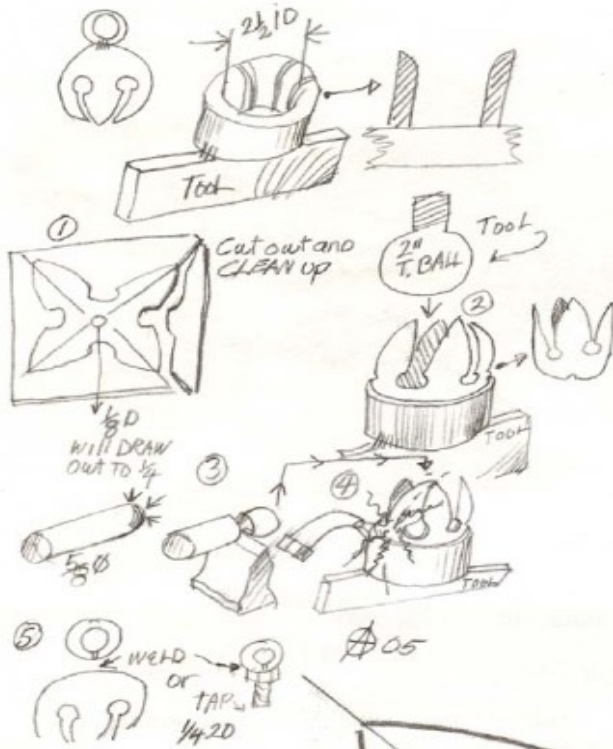
Diagram and detail work that Roger spoke of in the article on page 9.
This is the Christmas Bow & Wreath Hanger on page 14.

This is the 1st Christmas item that Roger made, except he put a long handle on it.

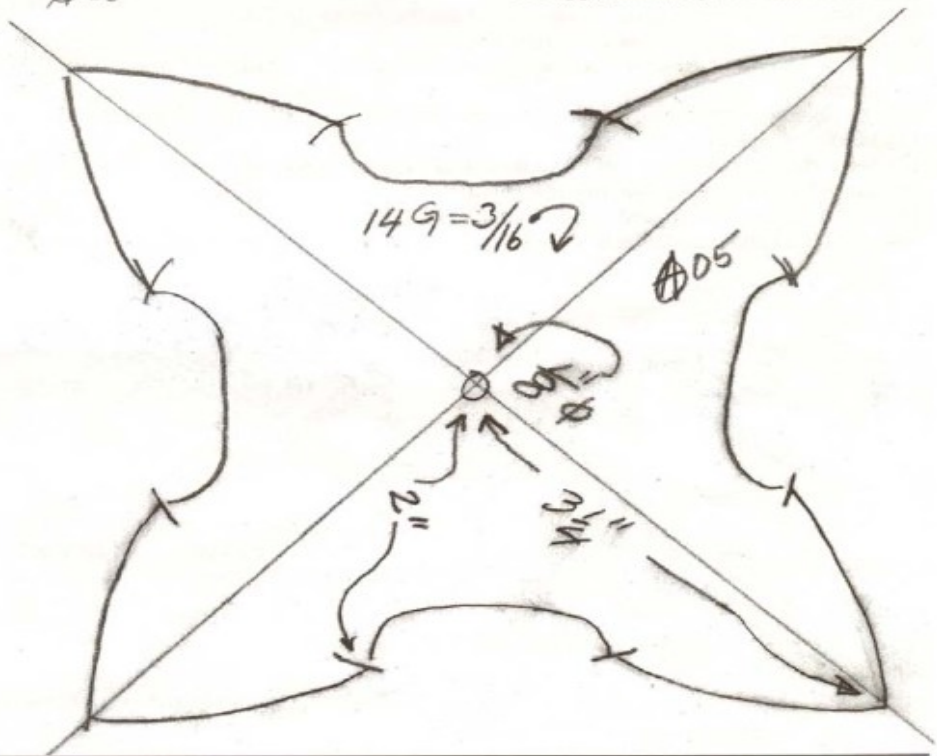
This article was published in the MABA—Michigan Artist Blacksmith's Association "The Upsetter" newsletter in the Nov-Dec 2005 issue.

Jingle Bells, Jingle Bells, Jingle all the way...

by Steve Alling



Full size pattern for approximately a 2" diameter bell.



This is the 2nd Christmas item that Roger made.

This article was published in the MABA—Michigan Artist Blacksmith's Association "The Upsetter" newsletter in the Nov-Dec 2004 issue.

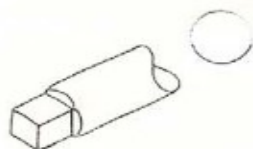
As the holiday season approaches, here are a couple of items you might find fun to make at the forge. Both would be good beginner projects.

Iron Candy Canes

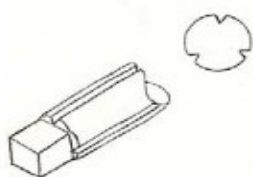
Created by: Steve Anderson



- 1) Start with 1/2" diameter round stock. I use a piece about 2 feet long to avoid using tongs.



- 2) Heat the end and square up about 1/2" of the stock for holding in vice.



- 3) At a yellow heat, groove 3 lines for 11 inches, using a chisel while placing the stock in a half round hardy or swage block. Repeated heats will be needed. You will only get a few inches

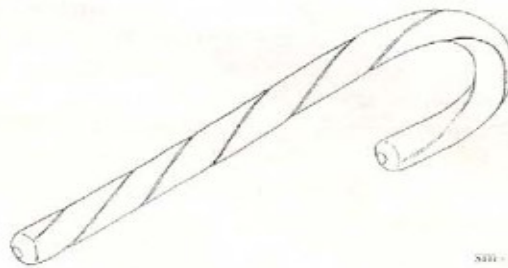
at a time. (You can also use a spring groover on a power hammer by making two passes.)

- 4) Place the square end in a vice and use channel locks or vice grips to make a slow twist in grooved portion. Quench if necessary to keep the twist even.



- 5) At a yellow heat cut twisted portion off on hardy while rolling piece to center. This keeps the stock round and looks more like an actual candy cane. Dress and round over ends to remove any sharp edges.

- 6) At a yellow heat use a wooden mallet to bend shape over horn.



- 7) Clean up the candy cane with a wire brush or on a wire wheel. Apply a wax or other finish.

*If you want to get creative, add a ribbon made from flattened 1/4" x 1/4" angle iron.

(editor's note: When I tried the candy cane for the article I flattened both ends and grooved the entire length. Because the stock was hot I used a 1/2" bolt tongs to position stock in vise. I twisted both halves and made two 11" candy canes from the 24" piece of stock. The grooving took me a little time, this first pair of candy canes were finished in an hour and a half. Steve Anderson said he can make one in about 15 minutes. They were fun to make!)

This is the 3rd Christmas item that Roger made, he made two different holders, one was wider and the other longer.

This article was published in the New York State Designer Blacksmiths "The Anvil's Chorus" newsletter in the Fall 2006 issue and was taken from California Blacksmith Sept/Oct 2006 issue.

15

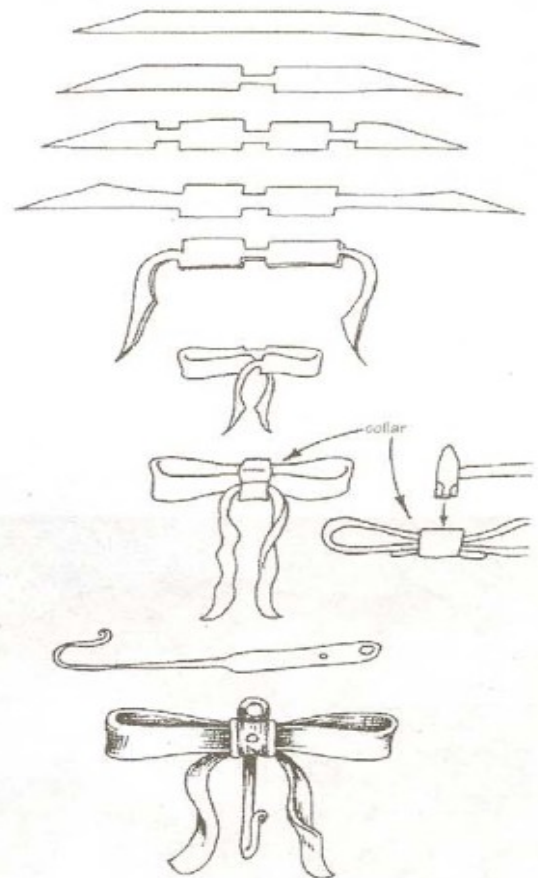
Christmas Bow & Wreath Hanger

By David Fink, Westville, Georgia
From the Ocmulgee Blacksmith Guild Newsletter

Materials Needed

- 1/8" x 1" x 28" (bow and tails)
- 1/8" x 1" x 1" (collar for the knot)
- 5/16" round x 11" (hanger and hook)

1. Cut or forge both ends of the 1/8" x 1" to a very steep angle.
2. Mark the center and fuller or cut a notch 3/8" deep by 1" long, leaving a little more than 1/4" of material in the center.
3. Measure 8" from notch and add another notch to each end.
4. Forge the material from the outer notches down to a gradual taper, as shown.
5. Bend ends down 90°.
6. Bend over horn so that the 90's overlap and rest over the center notch.
7. Make collar from the 1" piece of 1/8" x 1" stock, and attach it so that the joint is on the same side as the ribbons that were bent down 90°. The ribbons will hang from the back of the finished piece.
8. Push the collar down so that it is recessed into the bow and the bow bulges outward to the front.
9. Adjust the ribbons to a pleasing angle, and bend on the horn or with scroll tongs to give them dimension and appearance of real ones.
10. Forge a 1" to 1 1/2" hook on the 5/16" round stock, and flatten the opposite end. Punch or drill a 5/16" hole in this flattened end as a hanger.
11. Drill a 5/32" hole through collar and hook.
Rivet with 8d nail, and apply finish.



Taken from *California Blacksmith* September /October 2006

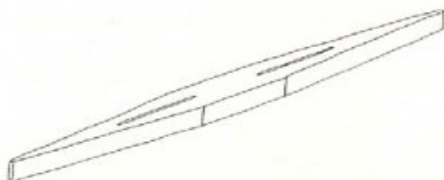
This is another Christmas item that Roger did not make yet but was in the MABA newsletter

This article was published in the MABA—Michigan Artist Blacksmith's Association "The Upsetter" newsletter in the Nov-Dec 2004 issue.

Reindeer Shoe tree ornament

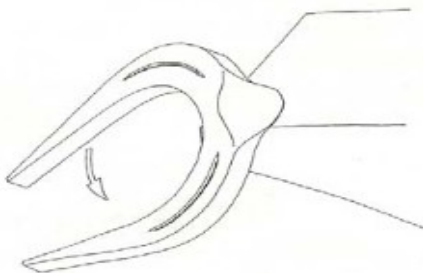
Created by: Steve Anderson

- 1) Start with 1/4" x 1/2" flat bar stock 4-1/2" long.
- 2) Taper from both ends to center to obtain a total length of 7". Be sure to maintain the 1/4" thickness.



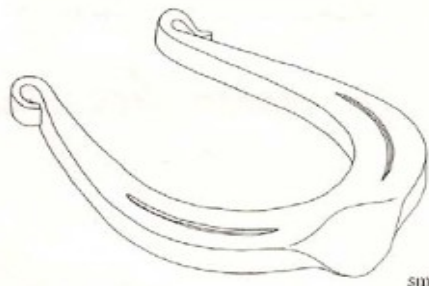
- 3) Chisel a 1-1/4" nail groove 1/2" off both sides of center as shown.

- 4) Bend to a pleasing horse (reindeer) shoe shape.



- 5) Forge a toe clip on corner of anvil heel.

- 6) Use small scroll tongs to shape heel ends as creative as you like.



- 7) Use fish line and a paper clip to make a hanger.
*Use a brass brush for Rudolph's shoes (they were always made of gold).



(editor's note: for me, these 3 shoes took 2 hours to finish. While Steve Anderson has them down to 15 minutes each.)

Vancouver Island Blacksmith Association Membership Application

Name: _____

Address: _____

City: _____ Prov/State: _____

Post/Zip Code: _____

E-Mail: _____

Phone: (____) _____

Regular Membership.....\$50/year

Members are required to sign a liability waiver. Make cheques and money orders payable to:

Vancouver Island Blacksmith Assoc.
1040 Marwood Avenue
Victoria, BC, Canada.

Artist Blacksmith Assoc. of North America Membership Application

Name: _____

Address: _____

City: _____ Prov/State: _____

Post/Zip Code: _____

Phone: (____) _____

Youth 18 and under..... \$20/year

Full Time Student.....\$45/year

Regular Membership.....\$55/year

Senior Citizen (Age 65+) ...\$50/year

Overseas Surface Mail\$60/year

Overseas Air Mail\$80/year

Contributory Membership....\$150/year

Educational Institution membership
\$250/year

Credit Card Payment.

Card No. _____

Visa Mastercard

Expiry Date: _____

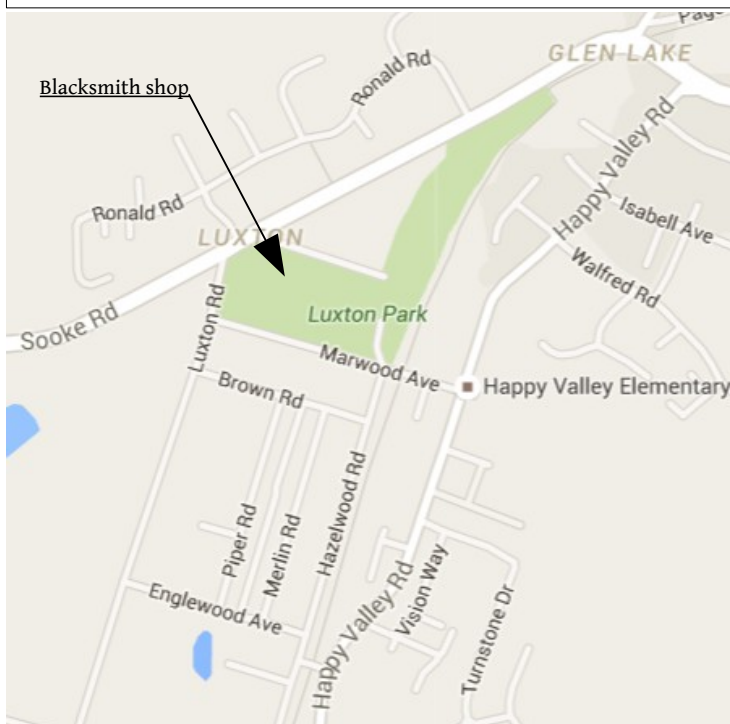
Signature: _____

ABANA Central Office
259 Muddy Fork Road
Jonesborough, TN 37659

Phone: (423) 913-1022

Fax: (423) 913-1023

Email: centraloffice@abana.org



Have you seen something that you want to share or have something you would like to write. We are always accepting freelancers send in photos, upcoming events shoot me an Email:

Arcingbrody@gmail.com