New Jersey Blacksmiths Association
"EAGLE"

N.J.B.A.

NJBA Volume 26, Issue 2 04/01/23
.http://www.njblacksmiths.org

Upcoming Events

Walnford day is scheduled for May 21, 2023, 11:00- 3:00. See page 3 for details.

Editor change

I have decided to start doing the newsletter again. I did it for many years and had to stop a few years ago for family reasons. I am hoping to get four issues out a year as we used to.

NJBA future

At the present time I am acting chairman and editor. I need to start the web site again also. I would like to drop the chairman position. It is not a lot of work, but I don't want or think I should have to do all three jobs. Bruce Freeman is acting as treasurer and membership and has been for years. So basically at this point there are two of us running the organization and neither of us are Spring chickens. Marshall has opened his shop to run numerous meets and open forges since the beginning of NJBA, and still does, so it is not fair to ask more of him either.

We took a beating when we shut down because of Covid, as did many other organizations. We are down to around 25 members, although we have over 350 Facebook members, they are non paying and are not hands on in the group that I am aware of. We need to start having demonstrations and holding workshops again to get the groups blood flowing again.

I hear about what should be done when talking to members but when it comes to volunteers, to fulfill the ideas there is no one stepping up.

I have been a member since I met a few members at the ABANA conference in Alfred N Y when NJBA was being set up as part of ABANA and I started as editor a few years later. I also set up and starting and running the website.

An organization such as NJBA thrives when the members are active and it doesn't require a lot if a handful a willing to do the work.

I retired from work with the NYC Parks two years ago after I came down with kidney cancer. I worked for them for over 36 years and ran my own business at the same time. The part of both jobs I disliked the most was phoning and coordinating which is what is needed for the position of chairman and something you still have to do as editor, but less. Some people can talk all day on the phone but I'm not one of them so I am asking you all for help on this.

I split my time between Staten Island and Pennsylvania taking care of houses and family. I don't have time for everything and it's not right that a few do everything as this will cause this organization to wither and die. So think about what you want from NJBA and what you can do to help it thrive. With your support we can become a strong organization again!

NJBA Board of Directors

Directors not listed online

New Jersey Blacksmiths Newsletter
Official NJBA Address
NJBA, P.O. Box 224
Farmingdale, NJ 07727-9998
NJBA's Website:
http://www.njblacksmiths.org
NJBA's Facebook Page:
https://www.facebook.com/njblacksmiths/

Open Forge Meets

Anyone 18 years or older is welcome to try their hand one time at our open forge meets. NJBA members may participate any time the forge is open. (The application form is on the last page of this newsletter)
Monday Night Open Forge, Howell, NJ
NJBA Director Marshall Bienstock hosts an open forge meet every Monday evening at 7 PM, except major holidays. (Please call ahead on holidays to make sure the forge will be open.) 732-221-3015

Participation in Hands-On Events

Participation in NJBA-sponsored hands-on events is limited to adults (i.e., 18 years or older).
This rule was effected as of December 2016, when NJBA was having problems with its insurance coverage (which has since re-placed). This policy applies to workshops, open forge meets, demonstrations, etc.
This policy does not apply to open forge meets and similar events that are sponsored by youth-oriented organizations such as scouts or schools with the aid of NJBA equipment and members.

NJBA Newsletter:

njblacksmiths.org/archive/index.htm
or use the link on the NJBA web site for the current newsletter.

Meet at Walnford Park

May 21st, 2023

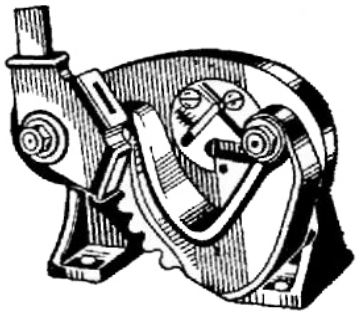
11:00- 3:00

We will be demonstrating and holding a membership meeting at Walnford Park on May 21st. We have decided to bring two forges though if more interest is shown we may bring more. This is a meet at a nice location and with two forge setups members should be able to swing a hammer and do some forging.

Walnford is also known as Crosswicks Creek Park and is in Upper Freehold, N.J. Please come out especially with your family to enjoy a day at the hidden jewel of he Monmouth County Park system - Walnford park. We are usually immediately across from the working gristmill. There are many activities for children so this is another great family event.

Historic Walnford is the 36 acre Historic District at the heart of Crosswick Creek Park. This country estate and former mill village provides a window to view more than a century of social, technological, and environmental history in Western Monmouth County.

The site includes a large home built for the Waln Family in 1774, an 1879 Carriage House, and assorted outbuildings and farm structures. Much of the site's interpretation is connected to the newly restored and operating late 19th century Gristmill.



Directions

: Please note: If you choose do an internet search for directions to this address, be aware that the parking lot on site is not accessible from the Walnford Rd/Hill Rd intersection.

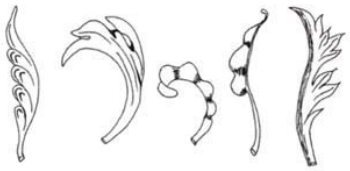
Directions below.

From the East Via I-195: Take Exit 11 (Imlaystown/Cox's Corner) and turn left onto Rt.43 (Imlaystown/Hightstown Rd). At the first intersection, turn right onto Rt. 526/Red Valley Rd. At the first light, turn left onto Sharon

Station Rd and follow approximately 2 miles. Turn right onto Rt. 539 North. Travel a short distance and turn left onto Holmes Mills Rd. Make first right onto Walnford Road which leads directly into the park.. From the West: Follow I-195 to Exit 8 (Allentown), Rt. 524/539. Turn right and follow Rt. 539 through Allentown. Turn right onto Holmes Mills Rd and then right onto Walnford Rd, which leads directly into the park. From the North: Take Rt. 9, 79, or 34S to 537W to Rt. 539 in Upper Freehold. Turn right onto Rt. 539 (Forked River Rd), then left onto Burlington

Path Rd. Turn right onto Holmes Mills Rd and then left onto Walnford Rd, which leads directly into the park.

Tempering colors of steel

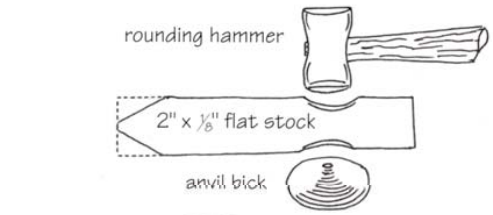


Water Leaves

by Eden Sanders, San Andreas, California, based on photographs taken by John Graham during Mark Aspery's Weaverville demonstration

CBA Skill Level: II

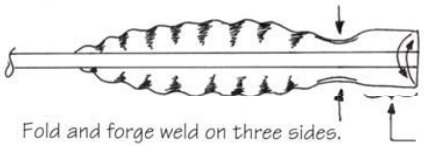
Water Leaf 1



1 Use rounding hammer to narrow the base of the leaf.

2 Cut corners to make a point.

3 Use cross peen to thin edges and elongate the leaf.

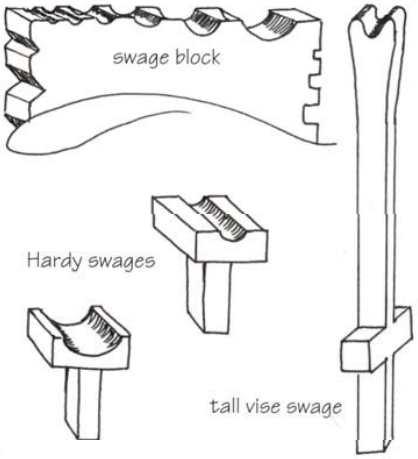


4 Use a swage and round edge of anvil for rippled edges.

Fold and forge weld on three sides.

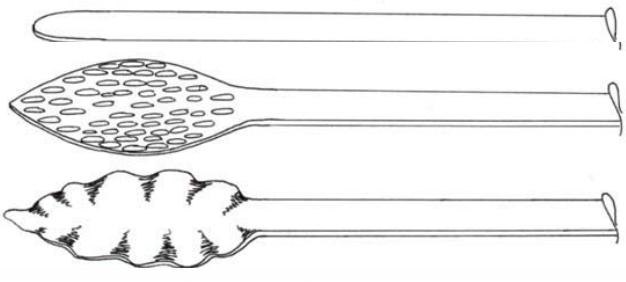
5 Fold and forge weld on four sides.

6 Scarf the end to attach to grill, curtain rod or....



Leafing hammer and swage at work.

Water Leaf 2

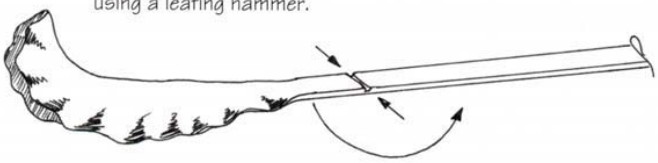


1 Round the tip.

2 Use cross peen to thin the edges and shape the leaf.

3 Flatten out the peen marks with rounding hammer, and scoop the leaf in a 45° swage with a wide cross peen.

4 Ripple the edges over rounded edge of anvil and a swage using a leafing hammer.



5 Cut bar halfway to fold leaf back over the bar, and forge weld.

6 Scarf the end of the weld to suit application.

Scooping the leaf in a 45° swage designed to be used in a vise.

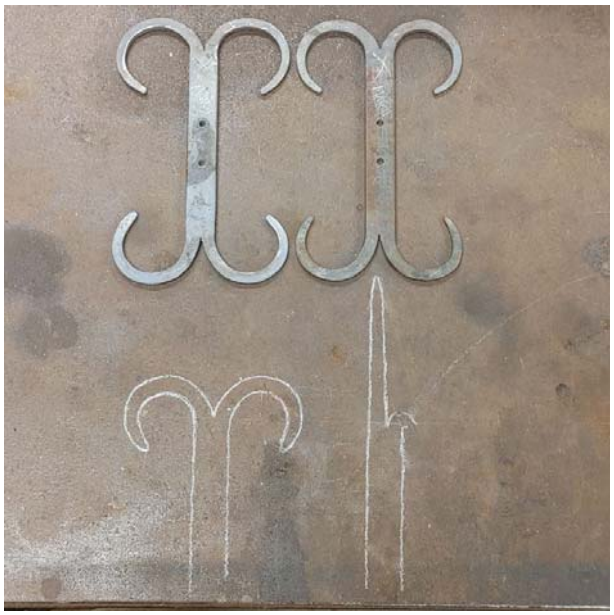
This article originally appeared in the California Blacksmith May/June 2008

Making a Colonial-Style Toaster

with Amy Barr and Bruce Manson

Start with the parts to hold the bread.
Take a 10” long piece of 3/16” X 1” flat bar. Drill 2 rivet holes about 1/2” from center on either side of center. Saw or cut a 3” kerf from either end of the bar, centered.

Bend 1 of the arms out of the way, then draw the oth-er to a point. Then scroll this arm over the horn of the anvil. Repeat until all 4 arms on this bar are drawn out and scrolled.



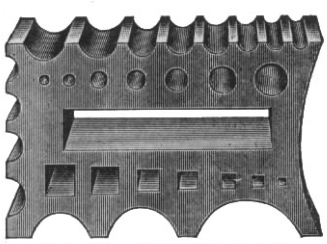
Once you’ve set up one of these “toast holders,” re-peat everything on a new 10” bar of 3/16” by 1”. You’ll need 2 toast holders for this project. When both holders are forged, measure about 1” from the end of the split towards the center. Bend to a 90 degree angle—you’re basically making a flat bottomed U.

Make the base for the toast holders.
The base is a 16 1/2” length of 1/8” by 2” flat bar. Dead center on this bar, drill or punch a rivet hole. Slightly round the ends of the bar, then hammer chamfer the edges. Rivet the toast holders to the base where indicated in the photo.

Make the legs
The legs are made from a 26” length of 3/16” by 1” flat bar, and a 13” piece of 3/16” by 1”. Weld the 2 sections to form a T (traditionally this would have been a forge weld, but do what you’re comfortable with.) Forge a small scroll on the ends of the T, then bend each end at 90 degrees, about 3” from each end.
Drill or punch a rivet hole where the legs of the T meet.

Assembly
Place the toast holder assembly atop the legs. Slide your rivet through the holes. A flat washer placed between the toast holder and the leg assembly will provide clearance and allow smoother rotation of the toast holder. Peen the rivet in place. You want to make the rivet tight enough to hold the 2 assemblies together without any slop, but not so tight that it can't pivot easily.
Wipe everything down to remove any grease or oils, then go find some bread!

Amy Barr is a CVBG member; Bruce Manson is the current president of CVBG.



MARK ASPERY

Spreading Flat Stock & Setting Down; my 75% worth.

As they say "Your mileage may vary depending on the driver and driving conditions.

Utterly preposterous, barely defensible, but at times, quite a handy thing to know. With my disclaimers appearing above, let me add that this somewhat predicable result is within my sphere of operating experience only, and may not fit all situations.

Spreading:
Empirically, I generally attain 75% of the width of material that theory says I should yield when spreading flat bar with the peen and setting down material with the face of the hammer.

Initially, let me first describe some of my results for you, so that you can get a feel for the expected outcomes, and then let me try to describe how I see the application(s) for a smith.

"75% of the theoretical outcome" – what does that mean? Take a length of 1-inch wide by ¼-inch thick material, I'll describe the bar another way… a stack of material comprising of four pieces, each 1-inch wide by 1⁄16th – inch thick.

If I were to lay this stack of material side-by-side, width-ways, math states that I should get a result 4-inches wide by 1⁄16th -inch thick. Theoretically, when spreading the 1-inch by ¼-inch bar with the peen, I should attain a result that is 4-inches wide and 1⁄16th -inch thick. I don't.

I yield a result of about 3-inches wide by 1⁄16th-inch thick. A result of approximately 75% of what could be mathematically or theoretically predicted.

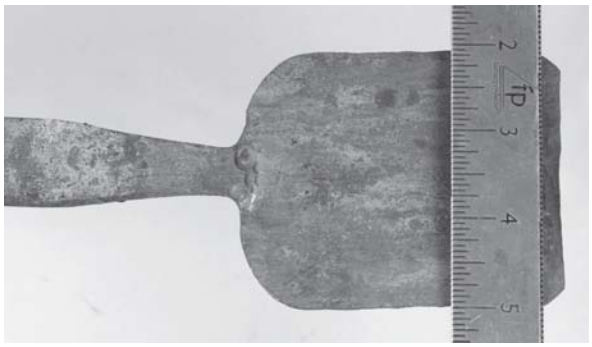
I have found that this result is somewhat predictable across a range of stock in my sphere of operating experience, that is, the typical stock that I work with, my fuel source, the shape and size of my cross peen, speed/force of my swing and the heat of the bar.

If you are making a water leaf and creating the leaf by spreading the scroll stock, the 75% result will let you know how wide the leaf will be - and if it will match your intended outcome.

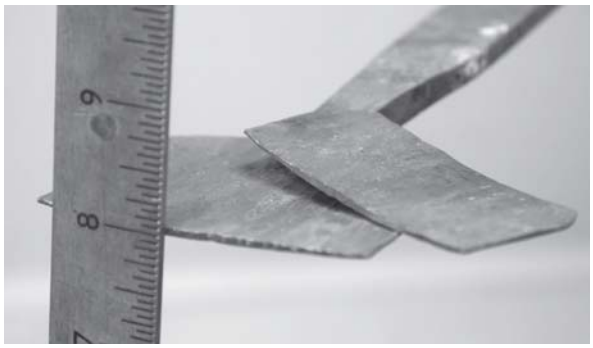
Working with scroll material that is ¾-inch wide by ¼-inch thick, the math states that I should yield a leaf 3-inches wide by 1⁄16th-inch thick on spreading. I don't, I yield about 2 ¼-inches in width by 1⁄16th-

Necking in at the edge of the anvil with the hammer prior to spreading the material

Spreading the 1-inch thick by ¼-inch wide bar

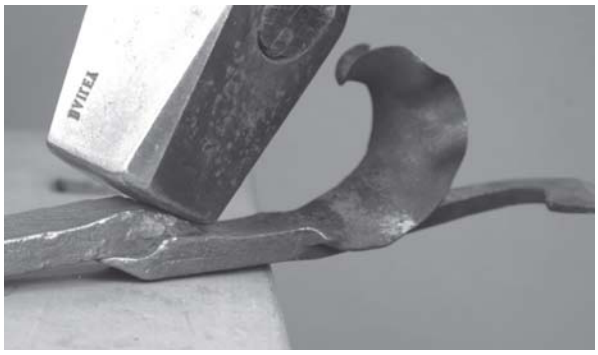


My result on spreading the 1-inch thick by ¼-inch wide bar



The spread bar cut to show the thickness of the material

A water leaf blank from the scroll stock ¾-inch wide by ¼-inch thick to be folded back and welded to the scroll



The water leaf and tip the scroll applied to the remainder of the scroll stock

inch in thickness, again 75% of what could be mathematically predicted.

The missing 25% is lost to both scale and elongation of the stock.

There are times when knowing that the bar will stretch 25% is a useful thing to know. An easy enough calculation if the sides of the bar are parallel, while some mathematical gymnastics are required for a taper. Also, knowing what the outcome will be allows me to forge with a certain conviction, not having to pause and check my work.

Judging the 1/16-inch thickness while speaking:

Firstly let's take a look at punching through a bar of steel. I don't care if you are using a slot punch or a round punch, so long as the punch has a flat working end and will yield a slug.

Punch until you feel and hear the anvil, turn the bar over and clean the slug. What thickness is the slug? Mine are generally 1⁄16 inch thick.

The punch is considerable smaller in area than my cross peen, and I'm giving it a good whack with my hammer to get through the bar. But still, the feel of the punch changed considerably when it got to within 1⁄16-inch of the anvil.

So to summarize, a tool with a small contact area that was given a descent whack with the hammer didn't push all the way through the bar.

When spreading with my hammer I am waiting for the hammer to give me the same sort of feel as the punch, a brighter bounce back or return of a downward blow and the sound of the anvil. Both of these things tell me that I am at the 1⁄16-inch thickness of material.

Experience must play a part in this observation - did you just re-heat the bar, or, is the stock really too cold to forge successfully.

Setting down:

Changing both material and hammer face gives another example. Making a jaw for an open jaw set of tongs out of square material. I set the square material down on the nearside, rounded, edge of the anvil until I get half the parent stock thickness.

Taking a length of ¾-inch square bar, my go-to stock for general tongs, this means setting the bar down to a thickness of ⅜-inch.

Theory states that the ¾-inch square bar, when set down to half its thickness should yield a bar that is 1½-inches wide.

My bar, when set down with the flat face of my hammer on the rounded, nearside, edge of the anvil, achieves a width of 1⅛-inch when forged down to ⅜-inch thick. Yielding approximately 75% of the mathematically predicted 1½-inch wide result.

This works well for me when tong-making, as I can set the bar down to 1⅛-inch wide without continually checking on the stock thickness.

One more example, and then I'll move on to the application as I see it.

Setting a 3:1 (width to thickness) ratio flat bar down on edge on the face of the anvil. I'm using a length of ¾-inch wide by ¼-inch thick bar.

3:1 is a limiting ratio for the smith – not to say that you shouldn't use other ratios of bars, you can, but if you intend to forge it by setting-down it on edge, drawing down on edge, or upsetting the material, then a ratio of 3:1 has some advantages that you don't get with higher-ratio, bars. I digress…

Setting the ¾-inch by ¼-inch bar down, on edge, to a square sectioned bar (when dressed) I get ⅜-inch square bar. Math states that I should get near to a 7⁄16-inch square bar – with the ⅜-inch square being about 75% of the predicted yield.

Combining both disciplines:

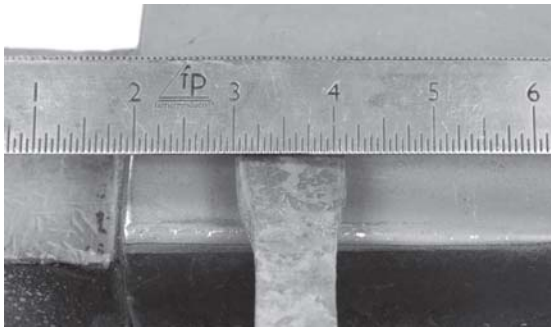
Using ¾-inch diameter bar as a starting stock, I want to set the material down to make a bar 1-inch wide by ¼-inch thick. A ¾-inch diameter bar has an area of: A=Pi x r_2 = 0.44184 sq-inches, 75% of which is 0.33138 sq-inches.

My 1-inch wide by ¼-inch thick desired outcome flat bar has an area of 0.25000 sq-inches, allowing me some room to tidy up the forging on the sides, to get sharp, square corners. So, I am within scope of getting what I need from my starting stock, without having to draw down or upset the bar.

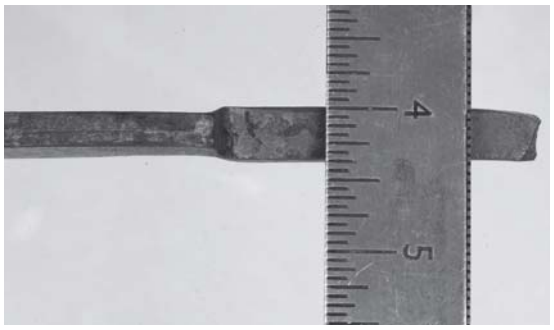
After isolating material for decorative element, I need to spread the remaining material to create a tapered socket for the wooden handle

The wooden handle is made from 1-inch diameter material, and will need material a little over 3-inches in width (depending on thickness), to make a socket that will accommodate the handle at its largest point tapering to be able to create a ⅜-inch diameter nearest to the chisel.

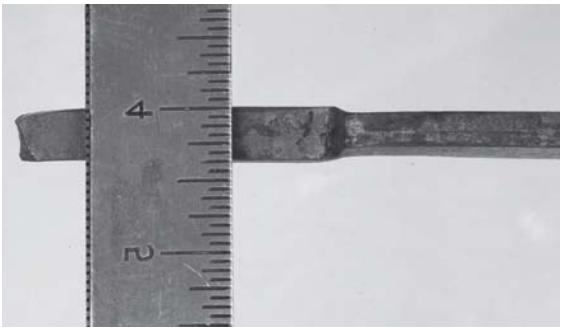
A ¾" square bar to be used to make a pair of tongs, about to be set down to half its thickness



The result of setting the bar down to half its thickness on the face of the anvil using the flat face of my hammer



A ¾-inch wide by ¼-inch thick bar (3:1 ratio) set down on edge on the face of the anvil



When dressed (and that obviously changes the cross section somewhat) I yield a 3/8-inch square bar

The material will stretch along the centerline of the bar by something akin to 25%. Math and the real-world can sometimes bump heads, and this is one such case. I know that I don't want to fuller down to my finished dimension, allowing room for a little cleanup later.

I intend to fuller in and then create a taper about 20% shorter than I need to allow for stretch when spreading.

Working backwards, the socket needed will be a heavy 3⁄32-inch thick. At the widest point of the socket, the ID will be such to allow a 1-inch round handle to fit. But, we also know that we need to allow for the neutral axis of the bend, so in reality, the circumference will be:

Pi × 1-3⁄32-inch = 3.437-inches (≈3-7⁄16-inch)

That is a flat measurement, I'm going to multi-ply it by 3⁄32" (thickness) to calculate the area.

3.338" × 0.0938 = 0.3223 square inches

But that's finished, i.e. 75%, with no allowance for loosing the 25% to scale and stretch. I need to 100% to get my starting stock.
0.3223" ÷ 75 × 100 = 0.4297 square inches

Now I need to find the round bar that this equals:

Area of a circle is: $\pi \times r_2$

If I divide by Pi, I'll be left with the r_2, which I can then find the square root for.

0.4299 ÷ π = 0.1368

Now finding the square root will give me the radius needed.

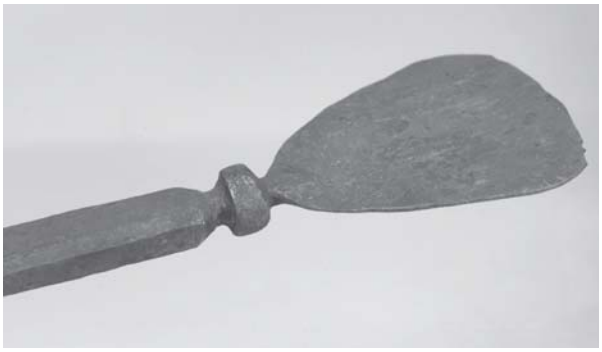
0.1368 = 0.3699" radius or rounding up to ⅜-inch radius

Checking my math, I'm going to find 75% of the area of a ¾-inch diameter bar

A = 3.142 × 0.375 ×0.375 = 0.4418-sq inches
Divide by 100 gives me 1% and then multiply by 75, gives me 75% = 0.3313-square inches - just a little over the 0.3223 sq inches I need.

I know that I'll need a little more than that for cleanup - call it ⅞-inch diameter bar

I want a 3½-inch long socket - I know that my taper will lengthen by 25% as I spread the bar, so I'm going to opt for a 2¾-inch (plus) long taper, going from ½-inch diameter up to ⅞-inch.



Wood chisel roughed out, ready for the socket to be turned and finish benchwork

If I was doing a one off, I'd probably forgo the math and wing it. But if I was making a few chis-els, I might be inclined to "crunch the numbers" ahead of starting.

Backing plate for a latch:

I like to use a backing plate for my Suffolk latches. I know the travel of the latch-bar to clear the keeper, and I know the dimensions of the staple that will constrain the latch-bar's travel on the backing plate.

I know the width of the lock (or latch) style of the door to which the plate will be fitted, and so I have the parameters of the dimensions of the lock -given my design.

The plate is 3-inches wide at the jam side of the style, and the latch style is 4-inches in width.

My client wants a design that reflects a popular 16th and 17th century design; the Russian Kokoshnik or Moroccan flare, giving a keel shape to the domed end of the plate at the panel or rail side of the door style.

I want the plate to feature the texture of spread material, so that foregoes the option of cutting the design out from sheet steel.
To forge this style of plate requires that the starting material is first broken into isolated areas and then manipulated to achieve the desired outcome with the minimum of follow-up benchwork.

I can isolate either on the side of the flat bar, or on the face. My preference is to isolate on the face of the bar in this instance.

To isolate the material is to either set down or fuller the material in such a way as to leave a block of material isolated from the remainder of the bar.

The question is, “how much do you set down or fuller in to the material to leave you with the correct amount of material for future forging operations, and how much material do you leave isolated?

Enter the 75/25% observation.

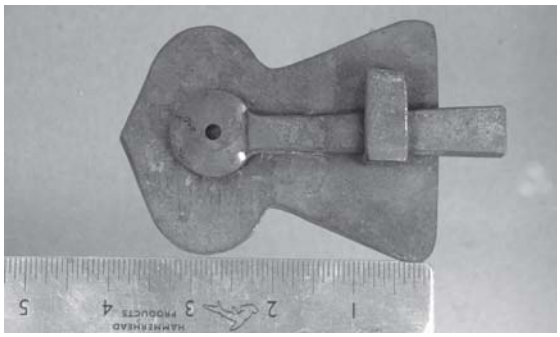
I can calculate the stretch in both directions giving me the “set up” of my starting stock.

Firstly, lets take a look at the two options available to me in this case, set down on the face or fuller-in from the side. Both methods will isolate the required material for the design.

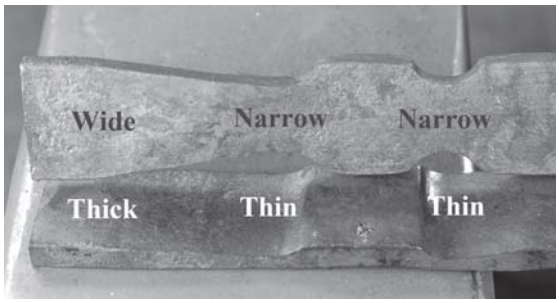
My preference is to set down the material on the face (over a round edge to eliminate cold shuts).

The depressions created in the face of the stock give clearance for the corners of the peen of my hammer while spreading, something that I don’t get when the stock is fullered on the side and uniform in thickness.

As the plate is tapered, so my initial set-up of the stock must be tapered, but shorter by 25%. I want round corners at the front of the plate, so I leave a little unforged material in front of the tapered stock.



The backing plate for my Suffolk latch



Both methods have isolated the appropriate material in the

The side fullered material does not allow for clearance of the peen when spreading

The set-downs on the face of the material allow clearance for the peen when spreading

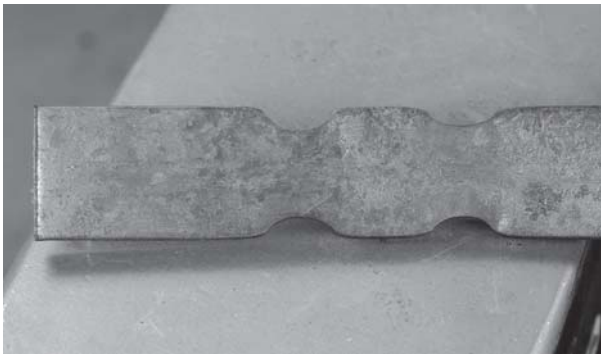
Set down the material and create a taper towards the end of the bar. Leave the last ¼-inch of the end unforged

Set down the material on the other side of the pillow

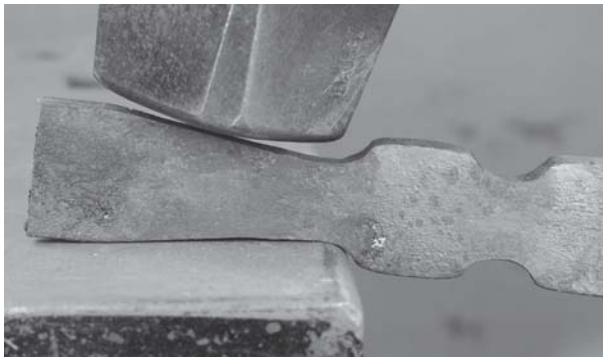
plate, so I leave a little unforged material in front of the tapered stock.

As you can see from the accompanying photographs, both methods allow for the stock to be tapered from the isolated pillow of material.

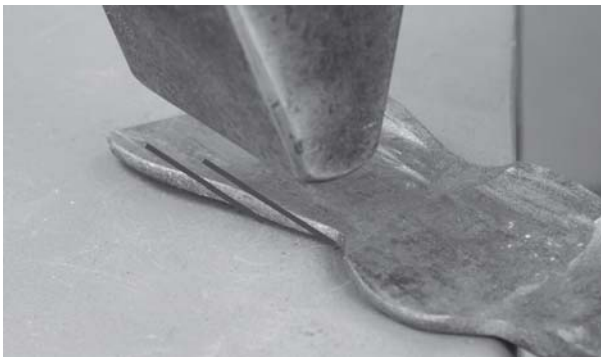
The trick here is to spread equally. After creating a valley in the center of the stock, I like to move the material away from me first as that's my weak side, and then move the material towards me, my stronger side. Enter the 75/25% observation.



Pillow isolated by fullering into the sides of the bar



Tapering the stock towards the end of the bar. Leave the last 1/4-inch of the end unforged



To create a predicable outcome, keep the hammer parallel to the centerline of the stock when spreading

*I think the important thing to remember when changing the cross section of bar is that **you will always lose something to scale and lengthening along the centerline**, you're not going to keep 100% of the stock in place.*

Do a little on the weak side, and then catch up on the strong - a little more on the weak etc..

Keep the hammer parallel to the centerline of the stock, as that keeps the distribution equal.

I hope that you find this 75/25% useful in your forgings. I usually don't bother with the intricate math unless forced to, but I do factor in a gain in length and a limited yield in spreading as I work on a project.

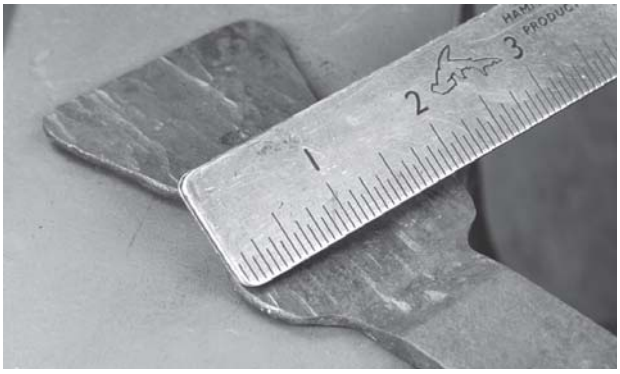
To finish, I believe that the largest advantage of this knowledge is that it helps me to forge with more confidence - "I can get after it!"

Less checking the work, or getting out my rule, and more getting on with the job. Certainly this won't fit all circumstances, but it does hit a few.

I think the important thing to remember when changing the cross section of bar is that you will always lose something to scale and lengthening along the centerline, you're not going to keep 100% of the stock in place.

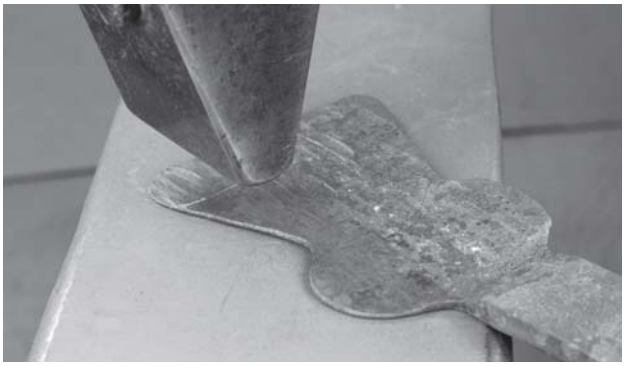
Your results may differ from mine, but you should be able to find a repeatable constant there somewhere, and finding it will help your work and efficiency.

If you find other constants as you are playing with this, give me a call. I'd love some input or another angle to this idea.

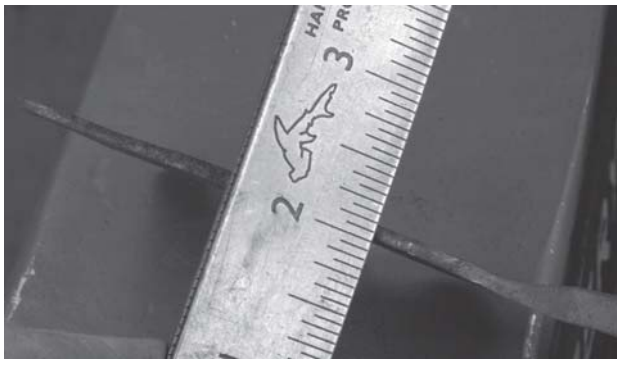


I know what I should get from my 75% observations, so its easy to see that I have more work to do here

Then play catch-up, by spreading the material towards yourself



Spread the material away from you first



More material yet to be spread to achieve my 1/16-inch thickness

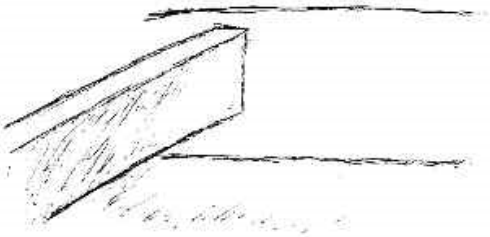
Dragon Head Key Chain Fob

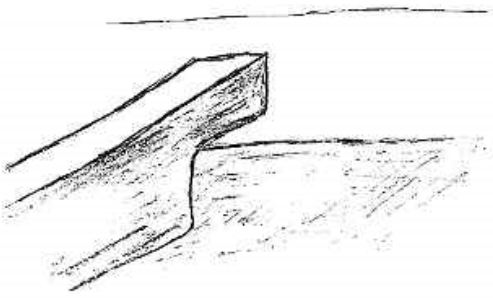
By Bill Clemens

Stock - 1/4 x 1

Tools - Center Punch
Straight Chisel
Curved Chisel
Small needle nose pliers or scrolling tongs
1/4 Inch Hole Punch

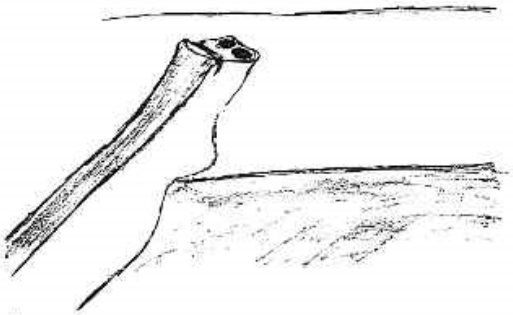
Begin with approximately 1/2 inch of the bar or the hammer and form the nose with half face blows. Upset the end slightly to square up the nose.



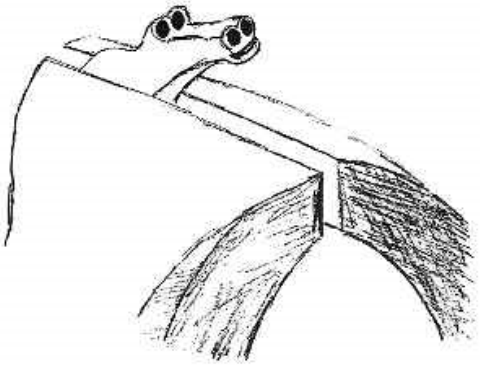


With the bar in the vise, use the center punch to form the nostrils and the chisel to form the mouth.

Next form the eye ridge on the anvil with half face blows



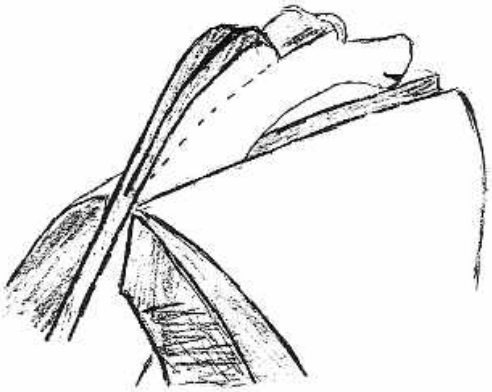
Add the eyes with a chisel. An eye tool can be used to add detail if desired.



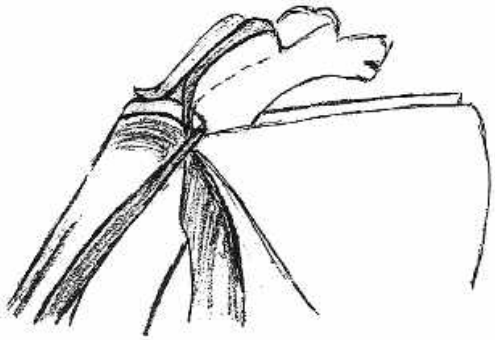
Blacksmith Guild of Central Maryland

March / April 2006 HAMMER & TONG

Divide the ears using the straight chisel, deepest near the eyes and tapering back towards the tips approximately 1 inch back.



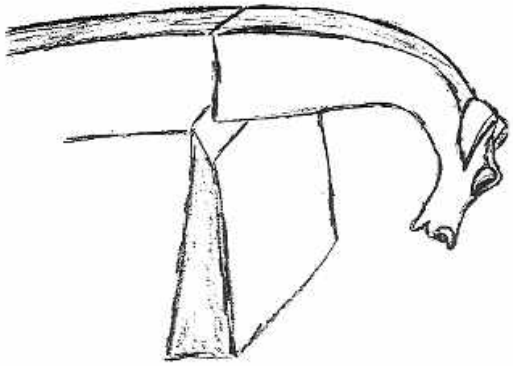
Use the curved chisel(curve down) to separate the ears from the neck.



Curve the ears forward and down with pliers or small scrolling tongs. Make sure the sharp cut edge is turned in against the neck.

HAMMER & TONG March / April 2006

Cut the dragon from the stock approximately 2 inches behind the ears.



Finish forging the neck, rounding the end and punching a hole for the key ring. Curve the head down over the horn, using bending forks or with scrolling tongs.

Clean the Dragon, being careful to remove any sharp edges and apply a coat of wax. Add Key Ring.

Blacksmith Guild of Central Maryland

New Jersey Blacksmith Association
90 William Avenue
Staten Island, New York, 10308
Attn: Larry Brown, Editor

NJBA Membership Renewal, Ballot, and Volunteers' List

(Please check your mailing label for the year your membership expires. If "2018"or less, your dues are due immediately, and must be paid for your vote to count. If "2019"or greater, you may vote without making any additional payment.)
Mail completed renewal form and ballot, along with check for dues, to:
NJBA Election, P.O. Box 224, Farmingdale, NJ 07727-9998
Name _____
Address_____
City, State, Zip _____
Phone Numbers: Day _____ Eve. Cell
Email address _____
My check is enclosed: [ ] $20 (regular membership dues), or [ ] $40 (business membership dues)

Ballot for Board member election

The following board members are up for reelection, please print and return this page if you wish to choose individual directors or send their names in as an email. If you want to re-elect all of them please check all and return the page or email “All” to; brownln@icloud.com. Mail to; NJBA, P.O. Box 224, Farmingdale, NJ 07727-9998

Nominee	Nominee	Nominee
[ ] All	[ ] Eric Cuper	[ ] Bruce Ringier
[ ] Billy Barrett	[ ] Dave Ennis	[ ] Thomas Santomauro
[ ] Marshall Bienstock	[ ] Bruce Freeman	[ ] Ben Suhaka
[ ] Bob Bozzay	[ ] Daniel Lapidow	[ ] Dan Yale
[ ] Larry Brown	[ ] Mark Morrow	

NJBA Volunteers List

"Please put my name on the list of potential volunteers:" (Circle all that apply.)

Availability: Saturdays Sundays Weekdays
Interests: Demonstrating Coaching Novices Assisting at Workshops
Experience: Novice Intermediate Experienced Professional