Jay Close On Nail Making

(During his demonstration at the 2007 Guild of Metalsmiths Madness)Observed by Pete Stanaitis

Jay's approach to nail making is one of developing a productive process for turning out large numbers of nails to close tolerances. He says that it took him about 6 months of making some nails every day to get "good at it". He thinks his personal best ever was making 87 nails per hour. He also commented that he knew someone who could do 230 nails per hour.

Most period (Williamsburg period) nails were rectangular in cross section, not square.

One-third to one-half of the nail's shank should have parallel sides. They are not to be tapered all along their length. Nails tapered all the way just fall out, unless clinched. Jay says that "square nails" made properly hold better than round nails. "Nails should be made in one heat; the head must still be glowing when it is shaped:"

First step is to draw the stock to a point, then never hit it again Think in terms of the cross section of the nail rod when determining lengths of stock for shank and head.

Determine length of stock for shank, then shoulder stock on 2 sides and draw the stock between the shoulder and the point out parallel just enough to fit header (learn to do this without having to check fit in header since that would waste time and heat). Determine length of stock needed for head. Jay usually uses one cross-section length for the head. Once the head-stock length has been determined, nick 2 adjacent sides of the stock on an acute cold-cut hardy, not the kind with one flat side.

Learn to make the nicks ALWAYS on the same sides relative to the shank shoulders. Jay nicks the same sides as the shank shoulders, but he says that Peter Ross nicks the sides opposite the shank shoulders. Nick almost all the way through the stock. Note that this method of nicking leaves a point at the corner opposite the nicks. This little bit of extra stock will be used to fill in the head, which at this point is off center. Direct your first sliding "heading" blow at this point, drawing the point in the correct direction to center the head on the shank.

When placing the shank into the header, learn to always orient it the same way so your first heading blow always is always aimed the same way, with the same effect, that is to center the head over the shank.

Jay makes his headers from wrought iron with an oval-shaped WI dome forge welded on top of the wrought iron stock at the heading area. The wrought iron handle-stock is about 6 or 8 inches of 1/2 to 3/4 inch round or square. The W1 piece is about 3/4" of 3/4 round.

After shaping the handle to his liking, he welds on the W1. He drills or punches a small hole from the back of the header as a pilot hole. Then, after making an appropriate shaped rectangular-tapered punch, punched it through from the back side just far enough to produce the required shape for the nail shank's cross section. The hole tapers larger just below the tip of the header. This is to assure that the nail wont stick in the header. Some filing may be required to get the header to release the new nails properly. Obviously, a different header will be required for each different cross section of nail needed.

Guild of Metalsmiths Volume 31, No. 4, December 2007

Do you really know how to forward e-mails?

From Bituminous Bits (Alabama Forge Council by Garland Johnston

Do you wonder why you get viruses or junk mail? Do you hate it? Every time you forward an e-mail there is information left over from the people who got the message before you, namely their e-mail addresses and names. As the messages get forwarded along, the list of addresses builds, and builds, and builds, and all it takes is for some poor sap to get a virus, and his computer can send that virus to every E-mail address that has come across his computer. Or, someone can take all of those addresses and sell them or send junk mail to them in the hopes that you will go to the site and he will make five cents for each hit. That's right, all of that inconvenience over a nickel! How do you stop it? Well, there are several easy steps.

Try the following if you haven't done it before:

(I) When you forward an e-mail, DELETE all of the other addresses that appear in the body of the message (at the top). That's right, DELETE them. Highlight them and delete them, backspace them, cut them, whatever it is you know how to do. It only takes a second. You MUST click the "Forward" button first and then you will have full editing capabilities against the body and headers of the message. If you don't click on "Forward" first, you won't be able to edit the message at all. If you're on AOL, the best way is to copy/paste into a new e-mail. You can also put ( ) around all the email addresses, and it will be a "Blind Copy" No one else can see who you've sent the e-mail to.

(2) Whenever you send an e-mail to more than one person, do NOT use the To: or Cc: fields for adding email addresses. Always use the BCC: (blind carbon copy) field for listing the e-mail addresses. This way the people you send to will only see their own e-mail address. If you don't see your BCC: option click on where it says To: and your address list will appear. Highlight the address and choose BCC: and that's it, it's that easy When you send to BCC: your message will automatically say "Undisclosed Recipients in the "TO:" field of the people who receive it.

(3) Remove any "FW :" in the subject line. You can re-name the subject if you wish or even fix spelling.

(4) ALWAYS hit your Forward button from the actual e-mail you are reading. Ever get those emails that you have to open 10 pages to read the one page with
the information on it? By Forwarding from the actual page you wish someone to view, you stop them from having to open many e-mails just to see what you sent.

(5) Have you ever gotten an email that is a petition? It states a position and asks you to add your name and address and to forward it to 10 or 15 people or your entire address book. The email can be forwarded on and on and can collect thousands of names and email addresses. A FACT: The completed petition is actually worth a couple of bucks to a professional spammer because of the wealth of valid names and email addresses contained therein. DO NOT put your email address on any petition. If you want to support the petition, send it as your own personal letter to the intended recipient. Your position may carry more weight as a personal letter than a laundry list of names and email addresses on a petition. (And don't believe the ones that say that the email is being traced, it just isn't so!)

Some of the other emails to delete and not forward are:

1. The one that says something like, "Send this email to 10 people and you'll see something great run across your screen." Or sometimes they'll just tease you by saying "something really cute will happen." IT ISN'T GOING TO HAPPEN!!!!! (We are still seeing some of the same emails that we waited on 10 years ago!)
2. I don't let the bad luck ones scare me either, they get trashed.
3. Before you forward an 'Amber Alert', or a 'Virus Alert', or some of the other emails floating around nowadays, check them out before you forward them. Most of them are junk mail that's been circling the net for YEARS! Just about everything you receive in an email that is in question can be checked out at Snopes. Just go to www.snopes.com It's really easy to find out if it's real or not. If it's not, please don't pass it on. In the future, let's stop the junk mail and the viruses.

This 2 page article reprinted from ABANA's Hammer's Blow Spring 2001
The Safe Shop

Preventing wrist injuries

Brian Gilbert

Earlier this year I took a Fall getting into my sailboat and broke my wrist. While going to rehab, I took the opportunity to find out more about wrist injuries and how to prevent them. For a blacksmith, any damage to the wrist pretty much shuts you down, as I discovered. Fortunately, my injury was pretty straightforward and responded well to physical therapy. Other problems, as I found out, are not so simple.

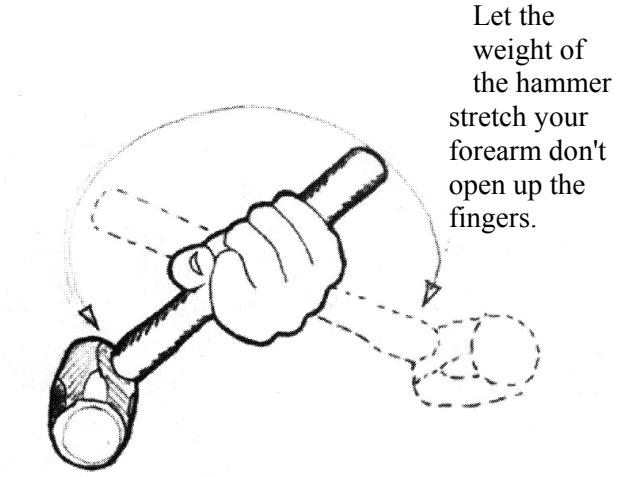
Tendonitis is a type of wrist injury that can be very difficult to treat. It's commonly caused by repetitive strain and overexertion, and newer blacksmiths can be can be especially susceptible.

When you're new, you don't know how much blacksmithing is supposed to hurt. The answer is, it isn't. It's OK for your muscles to he sore at the end of a session in the shop, but if you're hurting, especially in your joints, you're doing something wrong and could be setting yourself up for serious injury.

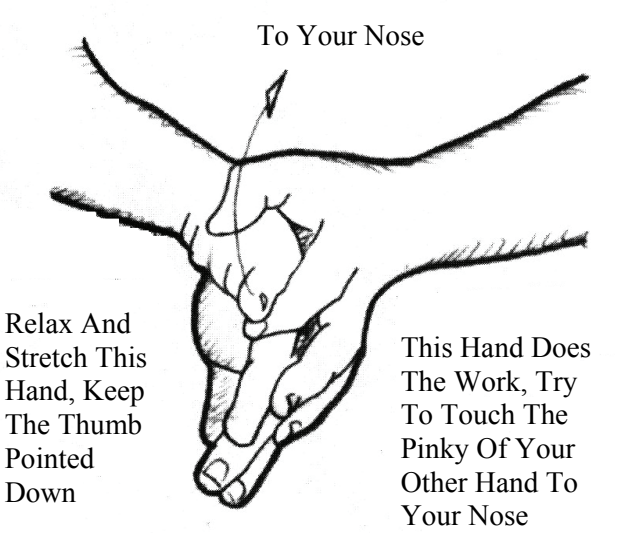
Tendonitis is one of the bigger problems that can develop. The tendons swell as a result of repetitive injury, and a common treatment is surgery followed by complete immobilization, It can take up to a year to recover.

I recently spoke with Jeff Mohr, a professional smith and instructor of mine. Jeff lost six months to tendonitis. I asked him what caused it, and he said he just plain overworked, and stressed it out. He didn't have surgery, but slowly recovered using alternating ice and hot water treatments, Since then, he's very careful with his wrist. He uses his power hammer whenever he can, and never enters any sort of hammering contest that occasionally takes place at conferences.

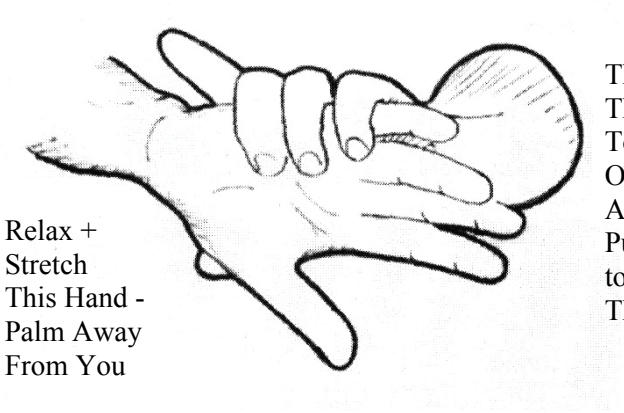
Alternating heat and cold treatments do work. During physical therapy my wrist was first loosened every day with fifteen minuses in a hot air and cornmeal bubbler, called a "Fluidotherapy machine." (An enterprising PT could make big money at a conference with one of these things ... it feels



A forearm tendon stretch



A forearm tendon stretch

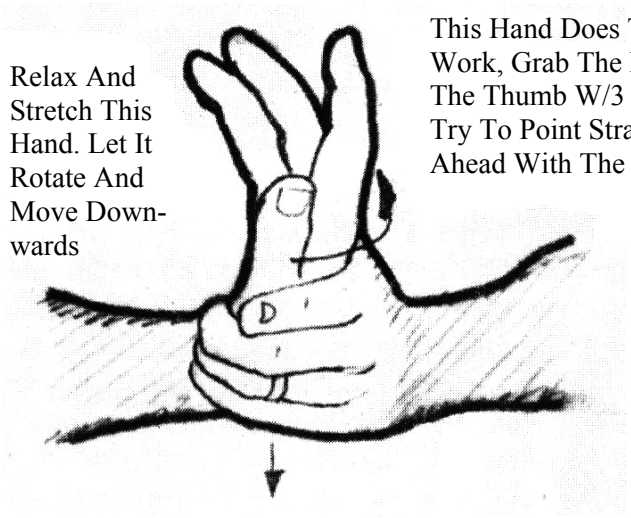


A wrist and forearm stretch

great!) You can get similar results with a hot water bottle. After an hour and thirty minute workout, I'd get fifteen minutes in an icepack.

Blacksmiths also need to watch our for tennis elbow, though I don't believe it's as serious as tendonitis. One of the main causes of tennis elbow is the "death grip, you should avoid holding the hammer too tightly.

There are a couple of ways that you can help prevent wrist injuries in general. First are general stretching exercises, which you can do before and after each session at the anvil, Second are strengthening exercises, which you can do while you're away from the forge.



A wrist and forearm stretch

Stretching Exercises

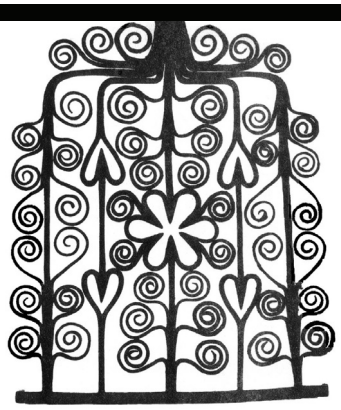
There are several easy stretches you can do to warm up before work. One is to lay your palms flat on the anvil, fingers pointing ahead, and slowly lean forward, stretching your wrist tendons, Do this a couple of times.

Next, grab a heavy hand hammer... say, three pounds or so... and hold it by the handle, straight up and straight out in front of you Lay the hammer slowly over to one side, and then the other, We're stretching the tendons that rotate the wrist here, with the help of gravity on the hammer head. You're also building upper arm strength as you hold a three-pound weight at the end of your arm.

Another really good stretch I remember from Aikido class. Directly in front of your face, hold one hand with the thumb pointing down, the other with the thumb pointing up. Keep your arms bent a little. Grab the thumb-down hand and try and rotate it towards your face, as if you were trying to touch your nose with your pinky.

Here's another to try. Hold one hand out in front of our face, palm out, and thumb pointing down. This is the hand that will get stretched. Take your free hand and grab the back of your other hand wrapping your fingers around the base of your pinky Your free thum b should push the base of the other thumb, and your elbows should be bent a little. Now, try to rotate your outward-facing palm up to the sky.

One last stretch that you can do is a little tough to describe. Hold your hammer hand directly in front pf your face, palm facing towards you. Take your other hand and grab the back of your hammer hand by wrapping your fingers around the base of your thumb, and place the thumb of your other hand between the third and fourth knuckle. Now rotate the whole assembly downwards, and try to point your hammer-hand thumb straight ahead.



Strengthening

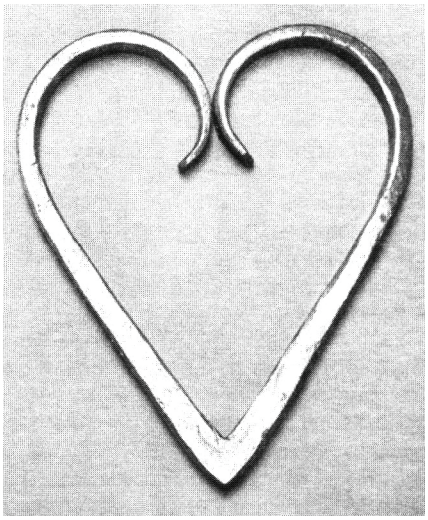
General strengthening of the wrist and forearm can help prevent injuries as well. This is the basic stuff... curls with an eight to twelve-pound free weight, for example. Spring-type gripper exercisers are handy, and you can keep one in your car. While I was undergoing physical therapy, they gave me a fist-sized lump of stuff that was basically silly putty. Working it with your hand for ten minutes a day can strengthen and loosen your fingers and hand.

Your hands are remarkable tools. You'll never realize just how amazing they are until you lose the use of one for awhile. I hope that doesn't happen to you, and taking a few moments to stretch and strengthen might help prevent problems. Talk to your doctor or a physical therapist if you have any questions. They can help design a specific exercise program tailored to your needs.

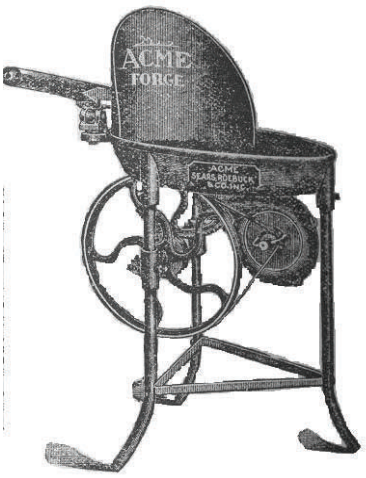
So what finally happened with my wrist? Well, after two months in a cast and six weeks of PT, I'm happy to report that I'm almost normal again, though I'm much more careful in the shop now. I don't slap around any three- or four-pounders like I used to (only on occasion, to be honest.. . I never was monstrously strong, though my grip strength was the highest my physical therapist had seen, I suspect that's common among blacksmiths) and I take frequent breaks. I'd say I can get 90%, out of my hammer hand. But it's especially noticeable when I stretch, as my broken hand hasn't nearly the same range of movement as the other. My orthopedist says that I can expect some arthritis later in life, but for now blacksmithing should be good therapy. Try some of these stretches out, and take good care of those hands!

Heart Trivet

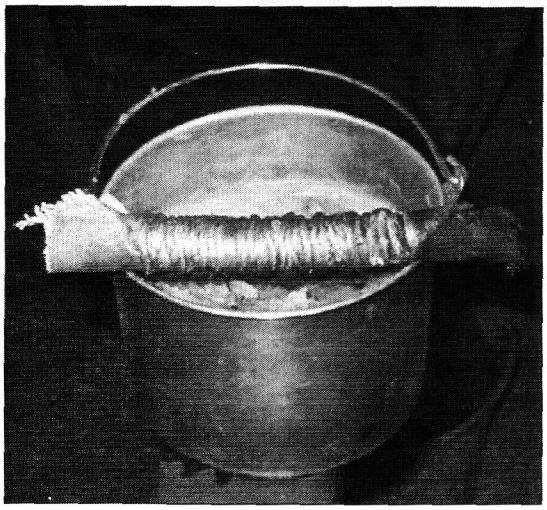
By Steven Spoerre



Create a 90 degree corner in a piece of 1/2" square stock at 7" to 8" from the end (refer to the Jan-Feb 2006 issue of the Upsetter for a how-to on square corners, or any good blacksmithing techniques book). Measuring from the outside of the corner, draw out an 11" taper from 1/2" to 1/8", maintaining the 1/2" stock thickness, on both elements. Break all the edges. At this point stamp in a name, date, verse, etc. on the inside of elements if desired. On a 2" dia. bending jig, roll the ends toward the inside of the corner through approximately 270 degrees. When both ends are rolled and symmetrical, heat the 90 degree corner, place one side in the vise and bend the other side towards it until the arcs touch. Tweak the corner, sides and bends until you have a pleasing heart shape.



Museum Wax Finish



Steve Maranhao's applicator and can of wax

By Dave Vogel, Carlsbad, CA
From California Blacksmith, No. 07-02, March/April 2007

Ingredients:
Boiled linseed oil -1 cup
Turpentine -1 cup
Japan Dryer -1 teaspoon
Beeswax -1 '/z cups (a little more than 2 cakes)

Cautions:
This is a volatile and extremely flammable mixture! Use a hot plate, not an open flame. Mix substance outdoors or with adequate ventilation.

Instructions:
1. Use a 2-quart saucepan (not from your kitchen)
2. Add linseed oil, turpentine and Japan Dryer to pan. Stir slowly to blend. Add Beeswax.
3. Slowly and carefully heat to melt the wax. As soon as it melts, stop heating. Pour into small paint can.
4. Allow to cool. It will cool and become a paste in a couple of days. Then keep sealed.

How to Use Museum Wax:
1. Heat piece to 200° - 300° F
2. Brush wax onto surface with a paint brush or wipe on with a cotton rag. The coating should smoke some. 3. Allow wax to soak into surface.
4. Wipe away excess.
This linseed/beeswax mixture will cure in eighty hours to form a hard, long-lasting finish suitable for household articles and interior locations. This recipe will last for years.

Materials Sources:
Home Depot - Japan Dryer, Linseed oil, paint can, turpentine. Ace Hardware - beeswax (cakes were $1.99 in 2001) Rolled up and twine-tied blue jean legs make a great wax applicator. The business-ends burn off as it is used. Cut off the burned end before each use. You'll wear out several jeans before you need a new applicator.

From Volume 10 Issue 1, HAMMER'S BLOW, ABANA publication

Handy Vise Tooling

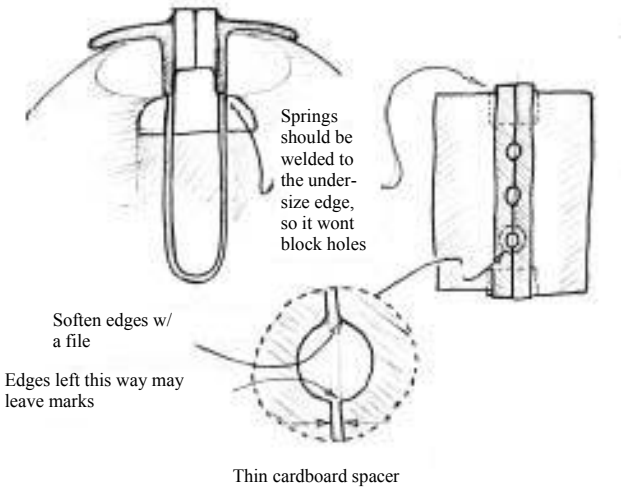
By Brian Gilbert

This design for vise tooling was sent to me by Phil Rosche in Summerville, South Carolina, and would be just the thing for upsetting round stock. With a little imagination, the same basic principle could be used to hold several different sizes of round or square securely in the vise while working it hot with minimal scarring.

The main elements are a couple pieces of angle, about 1/4" x 2", two pieces of 3/8" steel for pads, and some thin stock for the spring. There are probably several different ways to make this type of tool… here's how I did it.

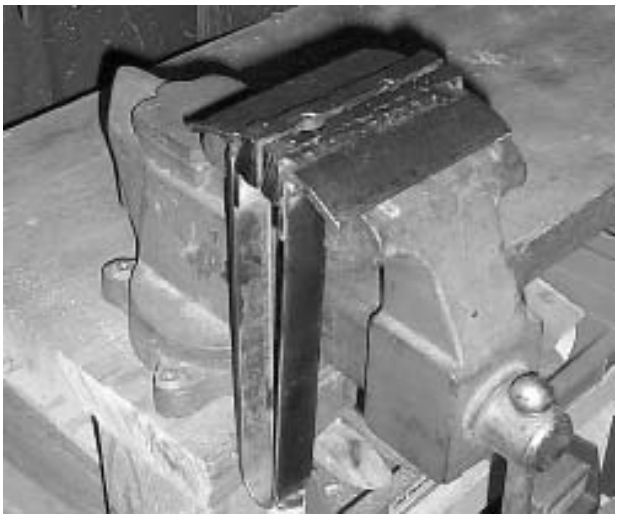
I started with a bar of 1/2" x 1" for the jaws. I fullered the bar at 5" and folded the bar back on itself. Then I took another heat, shoved some stock in between the pieces, and hammered them together in a treadle hammer until they were almost closed, leaving perhaps a 1/8" gap. If you leave too big a gap, then the jaws won't effectively grip, but if you close the gap all the way, the piece will slip in the jaws. You can make several different impressions for different sizes of stock, both round and square. Remember to leave about an inch at either end for the springs. If you are making the tool to hold square stock, then be careful when pressing the stock into the jaws… it will attempt to rotate away from you as you hammer. Hold it with vise grips, and try to start it as nearly perpendicular (on the edges) as possible. Next, I clamped two pieces of angle iron into the vise with the fullered jaws in between and tack welded the jaws to the angle iron. I then warmed the whole assembly in the forge, and welded the jaws. I then got the whole thing hot, clamped in the vise, and hammered the angle iron down to conform the tool to the vise.

Now I welded springs to the tool, using a piece of 1/8" x 3/4". I used two springs, but one may work just as well. The last step was to cut the jaw free of the bar with a chop saw. I cut off the fullered end first, then trimmed the other end. I did it this way so that the jaws would stay in close registration. You need to dress the tool by grinding or filing away the raised areas on the jaws.



Vise tooling with drilled holes

Forging the vise pads



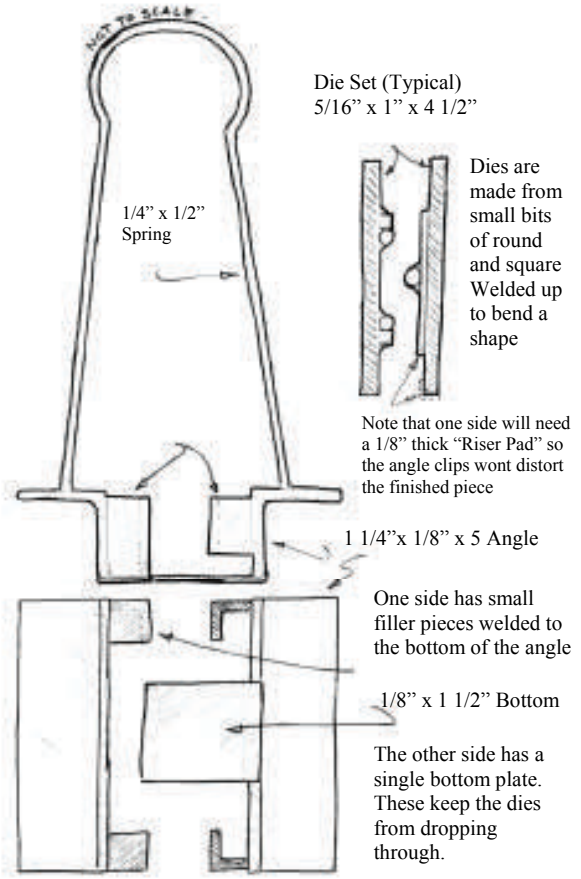
The completed tool

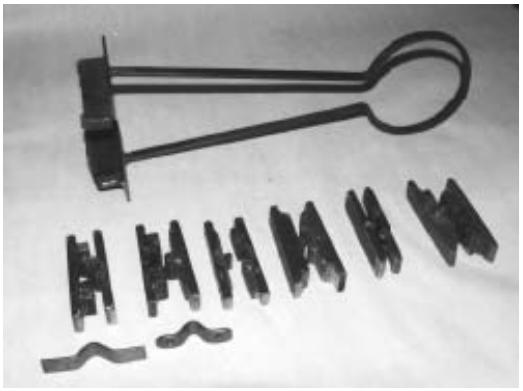
If you plan on using this tool for round stock only, then you can machine the jaws cold and get a better fit. Space the jaws with a business card and drill for the correct size of stock. This method leaves sharper corners, so you'll need to soften these with a file. Conform the angle to your vise by heating it up, clamping it in the vise, and hammering down until you get it to lie fairly even.

Vise Tooling, Version Two

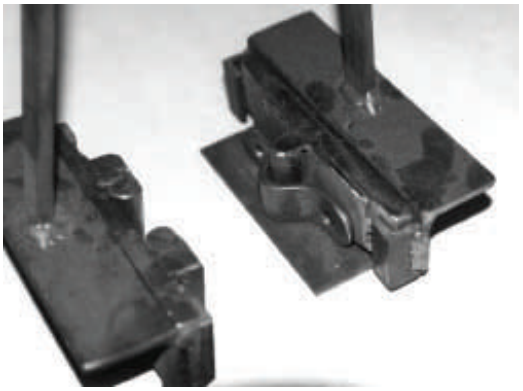
By Brian Gilbert

Along a similar vein to the tooling on the preceding page, this vise tool was designed by Mary Reid Gioia of Black Dog Forge in Seattle, Washington, who recently hosted the ABANA board meeting. Mary is the "Tool Queen" at Black Dog. (She showed me several neat designs that I'll present in upcoming issues.) This tool uses the vise as a mini press to make repetitive shapes using drop-in dies. These dies made small clips and collaring pieces that Mary used in her iron jewelry, but there are lots of uses for this type of tool. While exact stock sizes can be changed to suit, Mary's die holder was made from two pieces of 1/8" x 1 1/4" angle. The tiny side clips that hold the dies are 1/8" x 1/2" angle. It's important to note that some of Mary's dies had a 1/8" pad added so that the work being formed would clear these side clips.

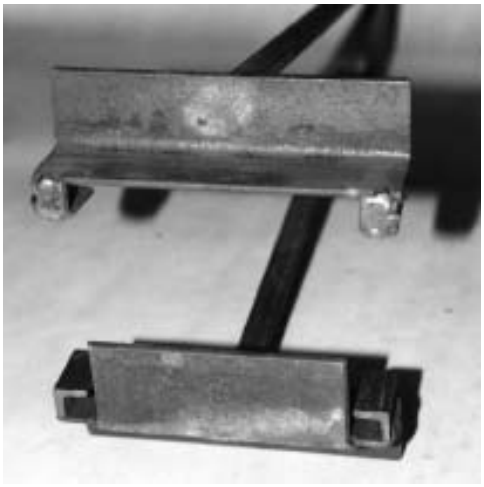




Mary's die holder and dies



A die in the holder, and the piece it was designed to make



Bottom detail-note the filler pieces to keep dies from dropping

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Northeast Blacksmiths Association

Northeast Blacksmiths holds its meets twice a year at the Ashokan Field Campus in New York State.

The Ashokan campus is located in Olivebridge, N.Y., several miles west of Kingston, N.Y. The meets are held the first weekend in May and in the first weekend in October every year. The main demonstration is in the blacksmith shop and there is a "Hands On" workshop for beginners. A main demonstrator is brought in for each meet, food and bunk-house style lodging are provided as part of the cost of the weekend long meet.

Contact : Tim Neu
to register for hammer-ins
or subscribe to the newsletter;
Tim Neu, Ashokan Field Campus,
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Membership is from *Jan. 1 — Dec. 31*

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

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Please include payment with the information listed below. You will receive a postcard confirmation of your membership, and will receive a newsletter within a month. NJBA's "year" runs from June to June. If you join mid-year, the postcard will offer a prorated dues option which will then allow you to extend your membership till the following June. The following information will be listed in a roster available to other members.

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