Rocky Forge News

Volume 8, issue 5 – May, 2009

Last Meeting

After weeks of weather that is conducive to cabin fever, Mother Nature gave us a great day on April 18th. We had sunshine, clouds and decent temperatures for our meeting at Ted Stout's shop near West Point. Attendance was above expectations and with Nathan Allen as the demonstrator, assisted by Clifton Ralph's comments, we learned a lot about forging at the anvil compared to the use of a power hammer. We also got a lot of opinions about comparison of the air hammer to the mechanical hammer. Nathan showed us techniques at both ends of the spectrum i.e. with the hand hammer at the anvil and then doing the same operation with the power hammer. He made a ball and demonstrated the making of a really nice early American drawer pull. The group participated in discussions between Nathan and Clifton about die designs with the help of blackboard graphics.

The audience included several new people which we hope will mail in their membership forms and become partners in our organization. One visitor was an Amish friend of Ted's who has been taking blacksmithing lessons from him. Ted built a large table forge for him and at the meeting several members participated in making fire tools for him using his new forge. Nathan made him a coal shovel from a length of old, pitted, rusty piece of 4" by ¼" iron. The end result made all of us envious of the recipient.

Three or four guys had set up to do some tail gate sales and that was fun haggling over bargains. One of the vendors was an accomplished copper smith who does a lot of work for Old Williamsburg. Seeing his work displayed was a real treat. We even had fresh Amish eggs for sale. They didn't last very long. Carol cooked some the next day and I thought she put yellow food coloring in them.

Carol Stout, Joan Ralph, Nancy Redding and Donna Starry put on a terrific lunch with an abundance of many dishes carried in by the members. We had to really push some of those guys out of the basement; they wanted to take a nap.

After lunch we had iron in the hat and took in $210. It was agreed to send the money to our friend Harold Frost. Money donated at the end of the lunch line to offset the cost of the ham was enough that we added it to the iron the hat money and we mailed a check to Harold for $300. Thanks to all of you who participated, we know it will be going directly the one needing it. Along that same line it is my understanding that Kim Thomas's EBAY benefit auction for Harold also made over $300. God bless you Kim.

In the afternoon we all worked outside on the 8 forges Ted had set up. Several worked with his 100# Little Giant. Forging activity went into the later afternoon hours which, paraphrasing Martha Stewart, was a good thing. There was lots of friendship forged that day with camaraderie in the air. Needless to say I believe this was one of those memorable meetings that I will never forget and trust that everyone else had a great time. Carol and I thank all of you for making it such a good day.

Ted Stout

Next Meeting

This has been a short a month since our meeting on the 3rd Saturday with the IBA. That was a good day. Our next meeting will be Saturday, May 9th, at 9:00 at Ted's shop. Plan on coming in around 8:30 if you want so we can drink coffee and eat doughnuts and get an early start.

Our agenda will be to decide what design to use for the pot rack that will be auctioned either at the IBA conference or at the Pontiac, Illinois meet. Either way we need to come up with a winning design. My suggestion will be to make something for an outside kitchen. All you who frequent the rendezvous need to look in your library and make some suggestions. We will need forks, spatulas, spoons, skillet and whatever else would be useful. A skillet blank has been forwarded to us and I was thinking a stir fry pan could be made from a disc blade. It would be real cool if Rocky Forge won the honor of having our pot rack represent the state at the Pontiac auction. We have enough talent we should be able to do it.

The biggest problem is time, unless we meet an additional time during May we will struggle to complete the project. We could have take-home projects to finish the job. Everyone will have a job on the 9th to make a specific item for the project, so come one, come all, we will need the help. Let's hope for good weather so we can use the forges outside. Also, if we can design to utilize 1/2" round stock I can supply the material.

Carol is tired of cooking so she has suggested we do the brown bag thing for this meeting. Probably be better anyway because we should be very busy trying to make pot rack items.

Ted

Announcement

Gentlemen,

Warren Whitesell, son of Larry and Nancy called to say his mother, Nancy, passed away around 4:35 this afternoon, Saturday April 25th.

Calling will be from 3-8 P.M. on Tuesday, April 28th, at the Young-Nichols Funeral Home, 216 West Jefferson Street, Tipton, Indiana, phone 765-675-4780, (www.young-nichols.com).

The funeral was at 10 A.M. at the Harbor Shores Baptist Church in Cicero, Indiana. It is located at 8011 East 216th Street; phone 317-984-5552.

There will be a viewing time from 9-10 preceding the funeral at 10:00 A.M.

We have used and have been satisfied with "Jeans Flowers" in Tipton, phone 765-675-7591

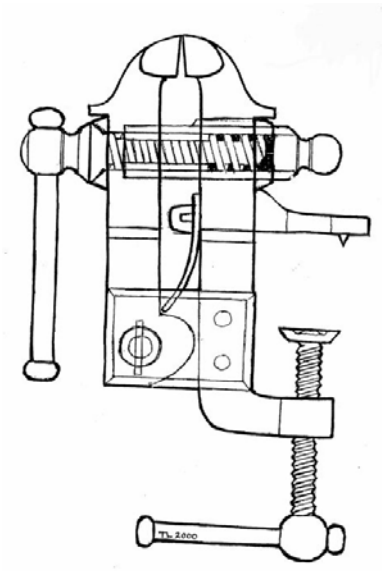
I am forwarding this notice to Farrell Wells for publication to the blacksmithing community, but there are some who are not on the email list. I would appreciate if you would help pass the word in your area. Thanks so much.

Ted Stout

Complex Hand Forging - Bench Vise

By Tom Latané

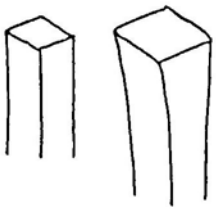
Permission to print this worksheet was granted to Rocky Forge Blacksmith Guild by Tom Latané. Please request Permission from the author before re-printing in other newsletters



Identical forging procedure for front and rear jaws.

I. A. Upper Vise Jaw:

Upset end of a 10" and a 12" piece of 1" square until the ends are 1 1/2" square.

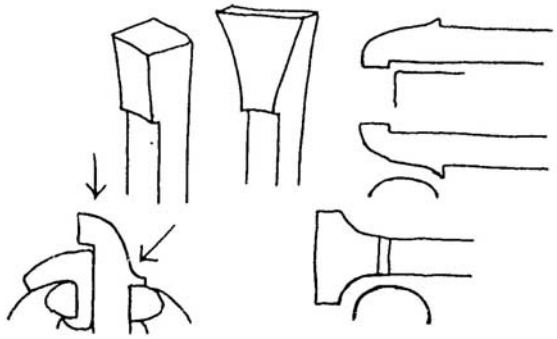


2" below the end should measure 1 " x 1 3/16" "1 1/4".

With 1 3/4" -2" over edge of anvil shoulder down to 1".

Spread end over horn and anvil face hammering first on back, then inside.

Reduce end to 3/4" thick.



Dress curves with round faced hammer over horn.

Bend 3/4" of end down over anvil edge.

Upset and dress over anvil edge and in vise with back-up jig[1]

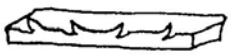
Reduce the thickness of the back of the jaw above the shoulder with cross pein. Place in vise with jig and draw out lip with fuller.

Dress shape of jaw in jig and over horn.

Forge bar below lip to 1" square.

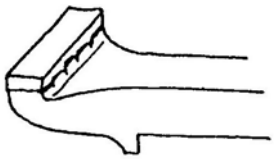
B. Steel face on jaw

Forge some 1045 or water hardening steel to length and width of vise jaw face and 3/16-1/4" thick.

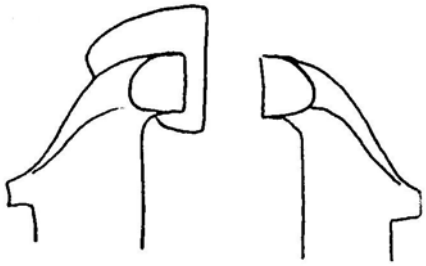


Chisel barbs into one edge of steel.

Heat vise jaw and pound cold barbs into it. (Barbs on lower side.)



[1] Back up jig Shoulder 1 1/4" x 1" and draw down to 3/8".



Bring to welding heat with steel up in fire.

Weld into place.

Dress edges and top of jaw.

C. Eye for screw

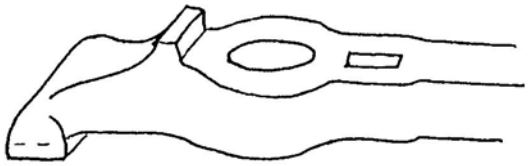
Begin a slit 1 1/2" long 3/8" below the lip through jaw back to front.

Open and drift to a little over 1" round.

II. Rear Vise Jaw Components.

A. Mortise

Punch a mortise 3/8" below eye with a 3/16" x 1/2" punch. - Dress with mild steel drift to 1/4" x 3/4" maximum.

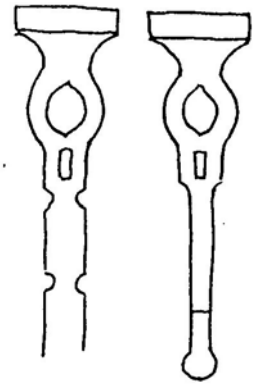


B. Lower bracket

Forge leg below lip to 7/8" deep or to smallest dimension resulting from punching.

Make a punch mark on side of leg 1/2" below mortise and another 2" below that.

Fuller on both these marks.



Draw material between fullers to a taper from over 1/2" to under.

Cut off over hardy leaving mass below fuller shoulder for screw clamp.

Shoulder bar on side of jaw face 2/3 of distance down from shoulder below mortise to lower shoulder.

Reduce from 7/8" to 5/8".

Forge end into cylindrical shape.

Bend end of leg away from face of jaw to right angle at shoulder.

Forge a right angle.

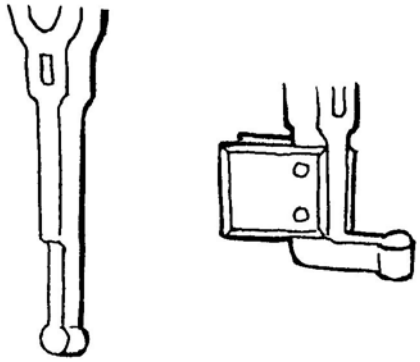
Cut off bar and taper back of 1" end.

Forge to fit your leg vise jaw.

C. Cheeks

Cut 2 pieces of 1/4" x 2"x 2 1/2".

Bevel top and bottom edges.



Drill and rivet to vise leg 3/4" above or even with bottom bend depending on space available.

Pickle in vinegar.

D. Bottom bracket screw

Weld 1/4" x 3/4" collar on 7/16" round shaft.

Forge ball end.

OR

Forge 3"- 4" of 7/16" round on end of 3/4" round bar.

Cut off and forge ball end. Pickle in vinegar.

File or turn ball end.

Bore for 3/8" round toggle.

Make toggle like main screw toggle.

Hold in upsetting jig or wood vise chaps to thread with die.

E. Upper bracket

Fuller end of 3/4" square, or use set hammer on anvil edge.

Shoulder third side over anvil edge.

Draw tenon to 1/4 x 3/4 x 1 1/2" long.

Shoulder behind single shoulder.

Cut off bar.

Spread and forge or cut desired shape.

Punch mortise with 1/8 x 3/8" punch.

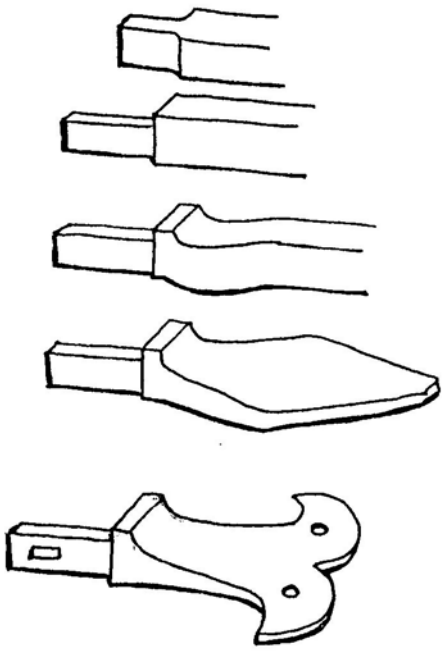
Bore 1/8" holes for teeth.

Counter bore or drift.

Forge tenons on 3/16" square rod.

File to fit holes. Cut 1/4" long and brad tenons in holes.

Sharpen teeth with file.



III. Front Jaw Hinge

A. Front Leg

Dress depth to match rear leg

Fuller below eye to match rear jaw.

Draw leg width to taper same as rear, allowing it to spread in depth.

Cut off even with bottom of rear jaw cheeks.

Shoulder and upset pivot area. (Shoulder will need to be higher than finished position.)

Forge leg to even depth from eye to shoulder.

Match length to rear jaw.

Heat cheeks and dress together with front leg.

Bore for 7/16" bolt.

B. Pivot Bolt

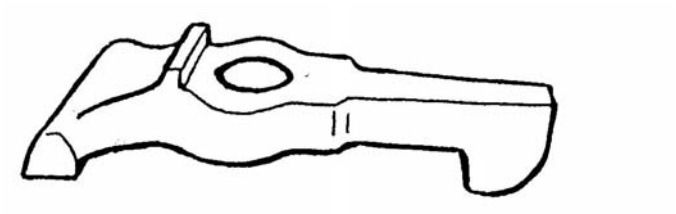
Neck down end of 5/8" square bar to 7/16".

Forge to 7/16" round.

Nick and head partially in 7/16" round hole.

Finish head in 7/16" square hole,

File hole in one cheek to accept square portion of bolt.



OR

File notch in plate with 7/16" round hole.

Form bolt head in this.

File corresponding notch in one cheek.

Make nut and thread bolt or punch mortise in bolt over swage and fit with wedge.

C. Spring

From scrap spring forge a leaf spring no wider than the width of the vise leg where the upper bracket is mortised, tapering from about 1/8", long enough to reach from below the box to just above the shoulder above the pivot hole in front jaw.

Punch a mortise for the upper bracket tenon.

Make a wedge to secure both bracket and spring.

Harden and temper spring.

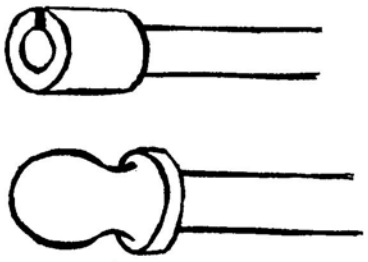
IV. Vise screw and Box

A. Screw

Upset 2" of end of 5/8" round.

Make collar of 1/4" x 1 1/4" bar.

Weld to end of rod using swage.



OR

Draw 4" of 11/16" round on end of 1" round bar.

Cut off with 1 1/2" of 1" round on end.

Upset shoulder with shaft through 11/16" hole in plate. (For beveled shoulder and washer, forge dished washer first, then upset in washer)

Fuller neck.

Forge ball on end.

Pickle in vinegar - Ball end will be filed or lathe turned. Screw will be turned down to 5/8" round and threaded on lathe.

B. Flat washer

Scarf ends of 3 1/2" of 3/8" square.

Roll in swage.

Weld.

Drift open.

C. Dished Washer

Cut 1/2" of 1" round.

Punch and drift 5/8" hole.

Upset outer edges.

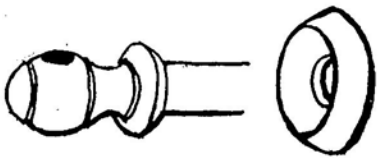
Dish center with large ball pein.

V.

Box A. Outer tube

2-7/8" of 1/8" x 3"

Scarf the two 3" sides



Roll a 3" long tube in a swage.

Dress to close ends around 3/4" round bar.

B. Inner Tube

1 3/4" of 1 1/2" x 1/4" bar.

Chisel cut both ends same side.

Roll in swage with chisel beveled side inwards.

Close ends using 1/4" mandrel or drift if necessary.

Size to fit snugly inside outer tube.

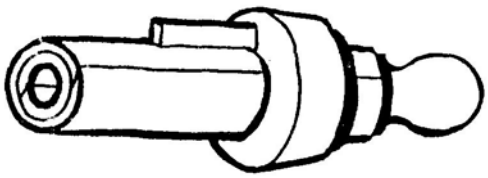
Braze together in fire.

Pickle in vinegar- threads will be cut in inner tube on lathe.

C. Restraining ring

Weld 4" of 3/8" square or upset and punch 1" of 1" round.

Drift to fit tightly around tube.



D. End plug

Fuller end of 3/4" round.

Forge ball finial.

Cut off and fit to end of tube.

These will be brazed around and into the end the tube along with a spline to prevent rotation after the threads have been cut.

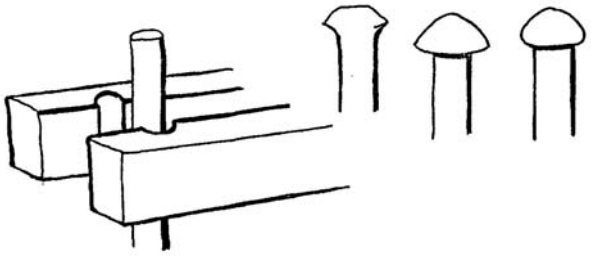
E. Toggle

Upset end of 7/16" in vise jig.

Forge button end.

Pass through hole bored in ball end of screw.

Upset and forge second button end.



Tom Latané
P.O. Box 62, Pepin, WI 54759
January 2001

Smoke and Noise

Articles from e-mail and the Internet

Compiled by David Childress

From: Ron Childers
Date: Tue, Apr 21, 2009 at 8:00 AM

A friend of mine thinks he wants to forge a post vice. There was an article in a publication or maybe on the internet about making a post vice that I skimmed through it but don't remember the source. Does anyone know where I might have seen that article?

Thanx,

Ron C

From: Andrew Vida
Date: Wed, Apr 22, 2009 at 10:12 AM

Your crazy friend better be very well equipped, not only to hand 100#+/- of very hot iron, but to protect himself from the radiant heat. Largest piece of iron I have ever had at welding heat was maybe 20 or 30 pounds with perhaps 10 of those at bright yellow. The amount of radiant energy such a mass throws off is nothing to be casual about. It will burn you seriously from feet away.

I would also say that unless he has experience with the industrial forging of masses that large, he is going to have a hard time. It isn't like hammering a taper on a piece of 3/4 square. It isn't ANYTHING like it.

-Andy Vida

From: Bob Ehrenberger
Date: Wed, Apr 22, 2009 at 1:33 PM

I have an old vice where the thread box was made by swaging it over the screw. I discovered this when it started to slip. I fixed it using the same method, I got the box hot, quickly inserted the screw and hammered it into the swage block.

Robert Ehrenberger

From: Mike Spencer
Date: Fri, Apr 24, 2009 at 11:39 AM

> ...repairing a post vise, and fixing up a new thread. Some new key stock was wound into the thread and then brazed into the tube with brass,...

A couple of factoidal anecdotes, for whatever they're worth.

At a workshop circa 1978, Dimitri Gerakaris described, repairing a post vise by wrapping 2 pieces of 1/4" square side by side on a mandrel, then brazing one inside for the female thread and the other onto the/a mandrel for the male. Great success reported. A couple of years later, when I saw Dimitri again, I asked about it and he said it hadn't held up well in the long run.

I had a square-thread rod (but no nut) and wanted to make a wood vise. 1/8" cold rolled fit in the threads very nicely. But when you bend square cross section as sharply as that (you all know this already) it gets stretched on the outside and compressed on the inside of the curve. Result is a trapezoidal cross section resembling an Acme thread, not what you want for a square thread -- doesn't fit right or make good contact with the opposing thread. If you draw-file the piece of stock to a trapezoidal cross section *before* wrapping and then wrap with the narrower of the parallel faces in, the distortion brings the shape back (more or less) to square.

This all worked fine for my wood vise, only I got way too much brass in the tube/threads. Lots of time with a dental drill, reaching in with a little wheel and cleaning up. Once the male thread would go into the tubular threaded part at all, it was time for lapping compound. That fixed up the fit pretty good.

I didn't have compressed air or a gas forge when I did this. I'm guessing that I could have made a more tidy job of the brazing with the gas forge and could have blown out some of the excess brass with compressed air while it was hot.

FWIW,

- Mike

From: David Childress
Date: Fri. May 1, 2009

You, gentle reader get these because I have found that I have several incomplete or broken post vices and want to determine how to fix them or complete them. Besides it is time to get the newsletter out. As they say two birds with one stone. I have a very good article that I do not have permission for yet. You will get that next month unless someone sends something in.

Announcements

The Rocky Forge News is available by E-mail and on our website (http://www.rockyforge.org/). If you wish to receive the newsletter via E-mail sent Dave Childress a note at trollkeep@gmail.com, or e-mail directly to rocky@rockyforge.org.