



SOFA SOUNDS

SOFA & A
SOUTHERN OHIO FORGE & ANVIL

Artist-Blacksmiths Association of North America

SEPTEMBER/OCTOBER 1990

BOARD OF DIRECTORS:

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Ron Van Vickle
Larry Wood

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Ron Van Vickle (Secretary/Treasurer)

ACTING NEWSLETTER EDITOR

Ken Scharabok (513-258-1389)

MARK YOUR CALENDARS: Unless otherwise noted, all meetings will be held at the Studebaker Frontier Homestead on Rt. 202, about 4 miles north of I-70 near Tipp City. Please don't park on the grass, or block access to the production buildings. Donations of items for the newsletter support raffle are always welcome. Please bring your work or tooling for display. The public and guests are welcome. Finger food and cold drinks to be provided on a break-even donation plate basis. The forges at the homestead are available before or after meetings for individual projects.

OCTOBER

No meeting due to Quad-State the previous weekend.

NOVEMBER 3rd, 1 PM

Demonstration by Brian Thompson.

DECEMBER 1st, 1 PM

Demonstration of a door bolt and associated hardware by Ron Thompson and Ron Van Vickle. These two guys always put on an entertaining demonstration.

JANUARY 5th, 1 PM

Demonstration by Bob Cruikshank.

FEBRUARY 2nd, 1 PM

Demonstration by Chuck Sigler and Bill Vatter on tool making.

March 2nd, 1 PM

Tentative demonstration by Ham Hammon on lost wax casting (if he can find where he put the wax).

NEWSLETTER EDITORSHIP:

I'mmm back! Due to Bud being overwhelmed with work and personal responsibilities (including a new baby at home), I will take over the editorship on a temporary basis. Thus, if you have items for the newsletter, please send them to me at the address on the back. I'm particularly interested in tips and techniques to pass along. They may not seem like much to you, but they are well appreciated by others so send them in!

NOTE: Please return SOFA VCR Tapes!

ABANA

Artist-Blacksmiths' Association of North America



P.O. Box 1181, Nashville, Indiana 47448
Executive Secretary, Janelle Gilbert

Office Hours: 7:30-11:30am & 1:30-4:30pm
Phone: (812) 988-6919

PRESIDENT'S MESSAGE September 1990

Dear Friends,

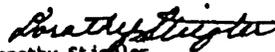
Fall is upon us and "The Anvil's Ring" for this quarter (Vol.18, #2) should reach our ABANA members by the last week in September. Look for the ABANA Board of Directors Election materials included with your magazine. Please return the election ballot right away since the postal deadline for voting will be shortly after you get the materials. We have extended the deadlines in order to utilize this method of mailing with the magazine. It is important that you exercise your ability to vote as an ABANA member even though you may not have met the candidates.

The ABANA Office received several letters of thanks and enthusiasm about the conference in Alfred, New York this year. We are glad to know there are so many of you who share our sentiments exactly. We can all look forward to another satisfying event for 1992 being planned for San Louis Obispo, California.

There are souvenirs left from this year's conference at Alfred, New York. We have ordered more conference lapel pins which may be purchased through the ABANA Office for \$6.50. We also had some brass belt buckles (\$30.00) and engineer hats (\$9.00) left over. Don't forget to include \$2.00 for shipping and handling for any sales order.

New articles and tips are being accepted for "The Anvil's Ring" Winter issue. If you have anything you would like to submit for publication, please contact our Editor, Albert Anderson, Pennsylvania State University, 268 Chambers Building, University Park, PA 16802.

Warm regards,


Dorothy Stiegler
ABANA President

DES/jgf

NOTE: If you are interested in being listed in the next ABANA Demonstrator List, send your name, address, telephone number and what you demonstrate to Clayton Carr, Rt 2, Box 2911, Kennewick, WA 99337.

BLACKSMITHING SCHOOLS/COURSES:

- Appalachian Center for Crafts, Rt 3, Smithville, TN 37166
- John C. Campbell Folk School, Brasstown, NC 28902
- Penland School of Arts & Crafts, Penland, NC 38765
- Crafts Center, Ripley, WV 25271
- Arrowmont School of Arts and Crafts, Gatlinberg, TN 37738
- Peters Valley Crafts, Layton, NJ 07851
- Haystack Shool of Crafts, Deer Isle, ME 04627
- Touchstone Center for Crafts, Box 2141, Uniontown, PA

ABANA BOARD OF DIRECTORS ELECTIONS:

The ballot for the vacant positions on the ABANA Board will be in the next issue of The Anvil's Ring. Due to a very short voting period, it is very important you cast your ballot as soon as possible after receipt.

When reviewing the slate of candidates, please do so carefully. Far too often in the past people have been elected to the board only to resign at the first board meeting when they find out the effort expected of them, are asked to resign during their term due to non-support, or resign due to conflicting workloads. Candidates may be on the slate due to their being volunteered by their group (we oughta be represented) or it is an ego trip for them to be elected.

Membership on this board requires a dedication to promotion blacksmithing and the time and energy to fulfill the responsibility. My recommendation is to not be overly influenced by someone's reputation as a practicing blacksmith, the fact they are good old boys/girls, or even that they say they want the job. Look instead for their past involvement in their local chapters. If they have made a significant contribution to their local chapters, they know the time and effort to be required and have let their actions speak for themselves. Some of the most productive board members have been part-time smiths who brought some type of expertise to the board, such as banking or corporate or government upper-manage-ment level experience.

In the above regard, I would like to give a personal endorsement to Ron Porter, a candidate from Indiana who may of you know through his involvement with I.B.A. for many years and from the Quad-States. Ron has been a cornerstone

of I.B.A., held various offices (including editorship), help set up their annual conference several times and, in my opinion, would be an asset to the board.

You can also corner Hans Peot at Quad-State for his opinion of board members running for reelection.

NOTES FROM THE 1990 ABANA CONFERENCE: by Ken Scharabok

Watch for the Fall 90 issue of The Anvil's Ring for write-ups on the conference. The overwhelming concensus was the New York State Designer-Blacksmiths chapter did a truly outstanding job in making this the best conference to date. The 1992 conference will be in San Luis Obispo, CA, on a college campus.

Bob Trout, who had the unenviable job of equipment coordinator, uses bandsaw blades cut and punched to fit his heavy duty hacksaw frame. He said they are a bit harder to get started but really cut through metal quickly and greatly outlast standard hacksaw blades.

Clay Spencer amazed almost everyone with his treadle hammer design and tooling. I saw him put a perfect tenon on a piece of 3/4" square stock in one hammer blow, but that's another story. He can normally put a finished tenon on stock in one heat by using tooling, the principal part of which is a handheld gig with just the amount to be tenoned sticking out the end. The end is then held against the forming dies resulting in a square shoulder without having to use a monkey tool in a separate step.

The beauty of Clay's treadle hammer is the ability to quickly change both top and bottom dies or tooling. Its limiting factor is the leg effort required to work the top block (even with a handle for extra assistance). If one were to marry up this quick change option to a compressor powered air hammer (such as the Trip-Air Hammer), a gas fired forge/furnace and Russ Swider's lye quench procedure for making long lasting dies and tooling out of mild steel, a goodly quantity of production work could be turned out quickly.

Bruce Osgood's anvil at one of the stations had an almost mirror-like finish. He said that after he had welded up the top and rough ground it, he took it to an automobile machine shop and had them run it through their head grinder/polisher. While it was sure pretty to look at, trying to forge on it was like walking on ice with a light coating of water.

Towards the end of the conference I made a poker for someone. Since Francis Whitaker was not using his station, I did with him sitting about 8' away. Francis noted the hook end on a poker can be put on the same way as the fork end of a fireplace log fork. Start with about 4" of stock and draw out one long taper and one shorter taper, leaving the stock full size where they meet. Now bend to a "J" shape with the closed end at the full size stock area and form into a scarf. Also scarf the poker end but split the scarf so each side fits over one leg of the "J". This technique is contained in Francis' Blacksmith's Cookbook.

The TripAir Hammer mentioned above is produced by E & C Machine, Rt 1, Box 1050, Lexington, NC 27292 - 704-249-4482. Ram weight is 40 lbs and it can operate off a standard compressor producing between 20-100 PSI. Cost is about \$3,500.

Ken Crawford, a SOFA member from Leetonia, OH, had his portable welding machine equipped van (essentially a mobile welding shop) at the conference and turned out to be a god-send due to his ability to take the welder to the job, rather than vise versa, and his welding skills. One technique I saw Ken using I had not seen elsewhere was to use a second, hand-held, welding rod as a filler rod when filling in a void with weld.

TEN COMMANDMENTS OF WELDING:

This section is from the Modern Blacksmith as reprinted by the newsletter of the California Blacksmith Ass'n. While most blacksmiths today seem to only do occasional welds, the information seems appropriate. The reprint was titled "Church Column" by Rev. John J. Davis.

"Malcolm Mugeridge once said, "Someday, a lot of people are going to be surprised to find out that God is interested in something besides religion,". I agree with that. I consider the church and its activity a recovery and training center for the business of life. As I reflect upon that, I have seen the ten commandments revised and rephrased and parody written. One such writing dealt with the Ten Commandments of Welding...please note that they are not "suggestions" ...a lesson often emphasized.

1. Thou shalt not weld on an unpurged tank, for the noise will be very loud when the tank explodes and thy friends will console thy widow in ways generally unacceptable unto thee.

2. Thou shalt secure thy tanks, lest one fall on thy foot and transform thee into less than a graceful dancer when called upon by thy wife or other female friend.

3. Thou shalt clean thy work carefully, lest thee gaze upon thy work falling apart as it passeth out of sight.

4. Thou shalt place thy work in jigs, or other holding fixtures for thy eye is a poor instrument for the measurement of angles and great will be the wrath of thy leader as thou art doing the task a second time.

5. Thou shalt not weld near batteries, compressed gasses, or flammable materials lest a spark from thy labors create a fire which would cause thee to continue thy chosen profession in an open field or other such drafty place.

6. Thou shalt take great care of thy tools and equipment, lest thy friend who is in charge of such things smites thee about thy head and shoulders for being a wasteral and a knave.

7. Thou shalt not preform thy art without proper ventilation, for the smell of toxic gases produced by the heating of primers, and painted or plated surfaces is worse than a bad cigar and will remain with thee until the end of thy days.

8. Thou shalt not weld without goggles, not shall thou allow others to gaze upon thy labors, lest thy employment, or the employment of others be changed to sitting on cold and rainy streets while selling pencils.

9. Thou shalt wear sturdy gloves, for burns upon thy hands are a source of great pain when thou art attempting to raise thy bowling average.

10. Thou shalt ground thy work, for thou art a poor conductor of electricity and the shock which thou shalt receive shall ruin thy plans for the weekend.

SCROLLING ADVISE (By Stan Stickland from the newsletter of the Tullie Smith House Blacksmith Guild):

- Measuring scrolls to go into an enclosed space, i.e., a frame: Make up different size scrolls in pairs, using a known length of stock (i.e., 24"), then fit the scrolls into position where they are to go and if the tails overlap, sub-

trace the overlap from 48". Likewise, if the tails don't overlap, add the amount they are short to 48". This will tell you how much stock you need to start with in order to fill the space you are dealing with.

- Duplicating scrolls already made: The old standby is to use a piece of soft wire along the centerline of the scroll then to measure the wire. Another method is to trace the outline of the scroll onto a piece of paper then measure the outline with a small (i.e., 4") traveler.

- Never force anything into place: This rule is most important when you are working railings and panels. Remember that the forces you have to exert on a piece of metal are cumulative and that if you force something into place the end result will be for the forces to release anyway they can. When you've finished muscling them into place, you will find all you've managed to do is bend the panel frame or the railing itself.

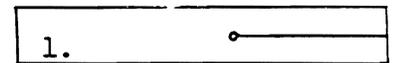
- Using the scroll bending jig: Remember the key point when bending scrolls around a jig is to only bend that portion of the stock which is visibly hot. If you try to bend the stock which isn't hot, you will only succeed in pulling the hot portion away from the jib because of the extra stress needed to bend the cold portion.

- Fitting the jig bent scrolls into a frame: Remove the scrolls from the jig, flatten it on the anvil, place the scrolls into place and then use an acetylene (gas) torch to make final adjustments. Remember - no stress!

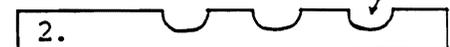
TIPS FROM THE NEWSLETTER OF THE NEW YORK STATE DESIGNER BLACKSMITHS:

- The use of a farrier's rounding hammer will help prevent a punch or chisel from kickout out if not hit square with the hammer.

- Start a split with a round hole punched (or drilled - ed) where the split will end (Figure 1)



- An interesting decoration can be added to square stock by the use of a fuller, chisel and punch. Use the fuller to put in grooves. Then use chisel to create cross hatches and a center punch to add detail. (Figures 2 & 3).



- Bruce Osgood uses small, cut up pieces of brazing rod when forge brazing. He still uses a flux such as borax. The brazing temperature is lower than iron welding temperature which makes it so nice for thin gauge metal.

- Charlie Orlando said, "The worst you are at welding techniques, the cleaner the fire must be". He also said to use a light hammer with very fast blows when upsetting metal and to put flux on all four sides of a forge weld joint to keep oxygen from the metal allowing you to superheat the area without burning.

- When forge welding, keep the pieces off the anvil until the first hammer blow. The anvil acts as a heat sink and will lower the temperature of the metal below welding heat on smaller pieces.

- Tips from Bruce Byington on making hammer handles and working with wood:

-- Use the white sap wood for handles, not the dark heart wood.

-- After cutting the tree, split the sections into four pieces and set aside for a year to cure. The handles can actually be rough shaped with a draw knife

and then set aside to cure "for as long as you can stand it". Wood used for musical instruments must be cut when the tree is alive and aged for at least five years as the aging affects the tone of the wood.

-- He uses three basic tools at the shaving horse: a drawknife, spoke shave and finally a scraper which gives a very fine finish.

-- Osage orange is an excellent wood for knife handles but will dull even a carbide tipped saw blade very quickly.

-- A few iodine crystals placed in a container of linseed oil will clarify the oil and eliminate the sticky feeling on the wood it is used on. (Editor note: I wonder if this would also apply when linseed oil is used for a metal finish?).

-- A drawknife can be used with the bevel up or down but bevel down gives more cutting control.

-- Ironwood is a good choice for mallet heads.

-- Wood needs lubrication to survive many, many years of service as handles for your tools. Bore a hole in the handle away from the head and insert a mixture of boiled linseed oil and turpentine. Plug the hole. This will help lubricate the wood fibers.

FORGE WELDING TIPS & TECHNIQUES: (From the newsletter of the Illinois Valley Blacksmith Ass'n)

- Tack welding in the fire: Heavy pieces may be joined in the fire itself. First prepare the pieces by forging and/or grinding to shape. File or grind away the heavy scale and set aside. Now make a long handled light hammer. Salvage a small to miniature sized hammer head. Cut 2' of 1/4" - 3/8" bar for the handle. Include enough extra (e.g., 6" - 8") to turn a loop handle if a better grip is desired. Weld the handle to the head. The length of the handle will vary. Primarily, it needs to be long enough to use in the heart of the fire at welding heat. Too short a handle will make the knuckles cry. Lay the shaped and descaled pieces back into the welding fire. Flux them and bring up to a light welding heat. At a light welding heat, align the pieces so they can be joined right in the fire. At full welding heat, while using the coke itself to steady the pieces, tap the edges together utilizing the long-handled hammer. Reflux in the fire and reheat. Withdraw the tack welded piece and hammer weld conventionally at the anvil or power hammer. The action of the hammer in the hand should be quick in order to accomplish the tack weld in as little time as possible. A hammer head could be cut from a length of mild steel bar (i.e., 1/2" round). No hardening or tempering is necessary. If the action isn't right, then cut off the head and replace it with a different sized one. Test it out. (By Hap Harthan).

- Tack welding two pieces without aid of an arc or gas welder: Prepare each piece by forging and/or grinding close to shape. Grind or file heavy scale from areas to be welded and set pieces aside. Now make tongs. Make or modify a heavy-jawed pair of tongs to securely hold together the pieces to be welded. Leave the reins long. Make a chain link or ring to secure the reins tightly. Put the finished tongs in a handy place next to the fire. Heat and flux liberally the parts to be welded. Heat to a light welding heat and, in the fire, quickly apply the tongs, or remove both parts from the fire and quickly apply the tongs in such a way as to hold the pieces, yet allow the hammer to be struck in the weld area on the next heat securing them with the chain link or ring. Reheat quickly to welding heat, refluxing in the fire as necessary. Withdraw the piece and lightly hammer weld, to make the tack. Remove the tongs, wire brush away the old flux. Reflux and reheat to full welding heat. Complete the weld in conventional manner at the anvil or at the power hammer. (The Unknown Blacksmith).

- Tack welding: A simple approach to binding pieces together for welding is to wire them with heavy wire. Heat, flux, reheat to welding temperature and tap it all together. The simplest approach to binding pieces together for welding is to tack them with gas or arc welder. Heat, flux, reheat to welding temperature and tap it all together. No one method solves every problem. In fact, in my shop, I always seem to have one more blacksmithing dilemma than I do a solution for it on any given day. (By John Smith).

- Welding long slender rods or bundles: Sometimes when carrying longer bars or a bundle or rods to be welded, the smith finds they do not support their weight when pulled at a welding heat from the fire. Having been appropriately tack welded, the pieces bend so severely when removed from the fire and carried towards the anvil that completing the weld is made difficult, if not impossible. Without a helper to hold the other end, the smith must support it by another method. Look around your shop and scrap pile for an object to act as an anvil. A small anvil, swage block, heavy casting or block of steel will do. Measure the distance from the floor to the bar sticking out past the edge of the forge top. Cut to length a wood round from the firewood supply which will bring the makeshift anvil to rest touching or very nearly touching the bar. Move the anvil and stump close to the forge edge. Heat the bar or bundle to welding heat, fluxing as necessary. Pull it out onto the makeshift anvil and weld there allowing the forge table to support the other end. Excellent welds can be obtained this way, making development of tendrils, long vines and stems less aggravating. (By Charlie Keller).

- Welding Tips: (By John Smith)

-- "Add flux as necessary" is to say that the weld area in the fire should look WET. Flux should be dripping from or running on the surface of the steel at welding heat. If the surface is dry looking, add more flux by spoon or shaker, etc.

-- If the weld has plenty of flux, is up to a certain high heat, and when pulled from the fire instantly appears crusty, not wet, immediately wire bursh away that batch of flux, and reflux liberally and quickly. Reheat to a welding heat.

-- If the weld area again looks dry in the fire at welding heat, cut back on the air to provide a thoroughly neutral or slightly carburizing atmosphere, throw a dash of flux on and hope it all goes to that runny slick looking surface.

-- If the weld area remains dry when pulled out now, wire bursh away that batch of flux and reflux liberally, this time setting aside the work piece or billet. Probe the fire with a poker and add good coke to it if there is only a thin layer substantially to avoid excessive oxidation. Bring up the heat in the forge before adding the workpiece so that a neutral fire or slightly oxidizing fire heats the piece to welding heat quickly but without oxidizing the flux.

-- By now, it is apparent that the leather gloves are burning your knuckles, the skin on your lips is peeling and the plastic safety glasses are beginning to sag across the bridge of your nose. This phenomenon is known as "critical heat for the blacksmith". If the smith is left to soak at this heat for any period of time, evidence of excessive oxidation rapidly develops. A sort of urgency in his manner occurs simultaneously with a complete and rapid loss of temper, as his face runs through the colors observed most accurately in strong forgelight. If there is any doubt that the smith is undergoing full transformation of his internal grain structure at this temperature, just touch a magnet to his forehead. It will be seen instantly that in 99 smiths out of 100, the magnet will not stick there. It is interesting to note, though, that the smith even at full heat, like his steel, will not weld. There is only one course of action to be taken, and that is to quench him immediately in the town's nearest watering hole until his temper colors subside and he becomes quite malleable. By the next morning, all symptoms of excessive grain growth will have vanished and he will be able to stand another day or forging, more or less.

MORE TIPS AND TECHNIQUES FROM THE 1988 ABANA CONFERENCE: (As reported in the newsletter of the Prairie Blacksmiths Ass'n)

- Finishes (Joe Pehoski)

-- Joe uses Japan Drier in his finish mixture. Japan drier is a lead composition, should be handled with care, and should not be used when children or pets might put their mouths on the iron.

-- For outside traditional black iron, Joe recommended priming, painting and working graphite into the damp paint, letting it dry and buffing. This takes a good luster. (Ed - Francis Whitaker double primes with two different colors. That way, he can readily see complete coats.)

-- For colors, Joe uses a basic solution of onepart shellac to 10 to 15 parts denatured alcohol. To this is added whatever color you want using colors from a pottery supply (mason colors). For starters use one tablespoon color to one pint of basic solution. You'll need to experiment with this to get the color you want. A color catalog is available by writting to W.W. Granger, 5959 W. Howard St., Chicago, IL 60648 and a source for paint mixing materials is Crescent Bronze Powder Co., 3400 N. Avondale Ave., Chicago, IL 60618 - 312-539-2441.

- Nol Putman makes up sets of punches from 3/8" or 1/2" spring steel (coil car springs traightened or dump-rake teeth) in about six-inch lengths with various tips - many sizes of round, several sizes of diamond, tear drop, etc. His basic layout tool point looks like a slightly rounded chisel. Keep points blunt for the most part as you want the point to push metal, not cut it. Nol anneals the rough punch forgings, grinds and files to finished shape then hardens. These punches are used on cold iron as well as hot for such things as incising letters, making borders, putting in decorations, etc. When doing lettering in a piece of 3/6" or 1/4" sheet, begin in the middle and work each direction so the metal will be distorted evenly.

(On Joe Pehoski, a write-up of the conference in the newsletter of the California Blacksmithing Ass'n stated, "Joe stated his sales increased significantly after adding colors to his work - the Romans colored theirs - eventhough Texas, where his shop is located, is a depressed area". - ed).

Quotes from the newsletter of the Indiana Blacksmithing Ass'n:

-- "Don't quote me on what I said; quote me on what I mean".

-- "It is all right to wait for opportunity to knock, but don't expect it to pick the lock".

-- "Mid-life crisis is what happens when you realize your problems can't be blamed on either your parents or children".

-- "By the time a man gets to greener pastures, he can't climb the fence".

Why should you belong to ABANA if you are interested in blacksmithing The newsletter of the Appalachian Blacksmith's Ass'n gave the following reasons:

-- It is really worth the money. To get a magazine of the caliber of The Anvil's Ring, custom written for your specialized interest, is a bargain. Free individual classified ads alone are worth the price.

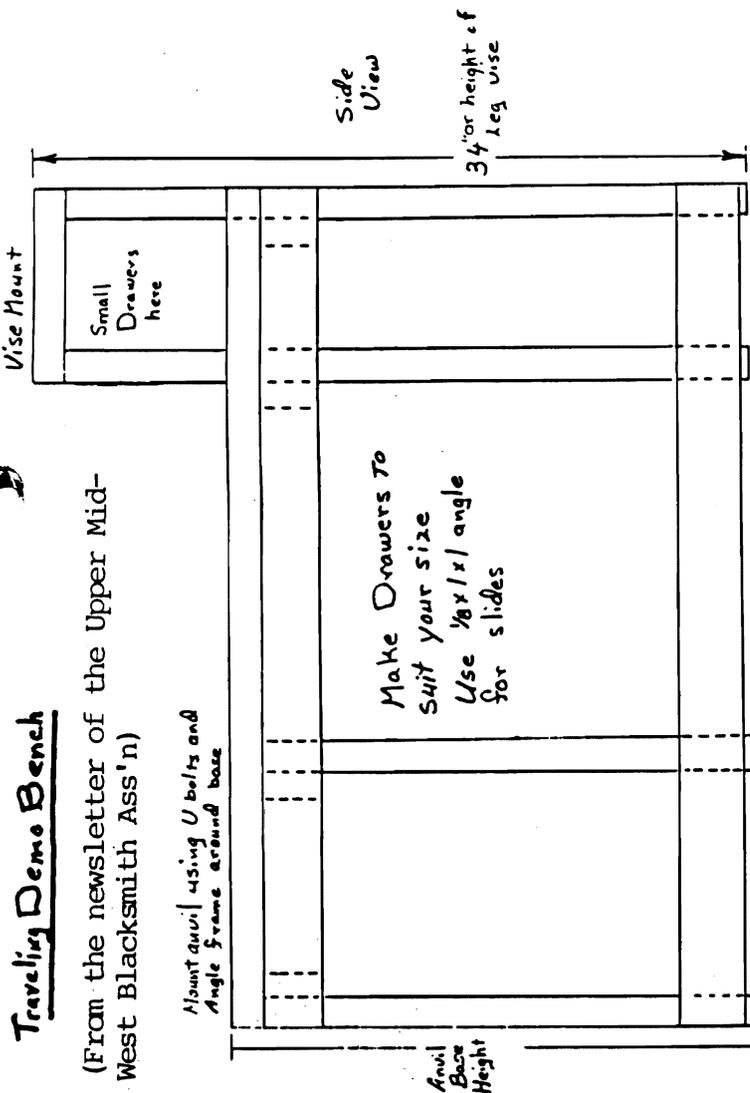
-- Belong^{ing} to ABANA is fun. Besides the obvious camaraderie with other smiths from different areas, events and exchange of tips and ideas are handled by top nationally known smiths.

-- ABANA is a versatile tool; it solves problems both of materials and supplies and provides sources of ideas which an individual could not possibly conceive in a lifetime. One good idea can save a smith hours and dollars of misspent effort and money. That safety tip you read in the Ring could save an eye, finger or foot.

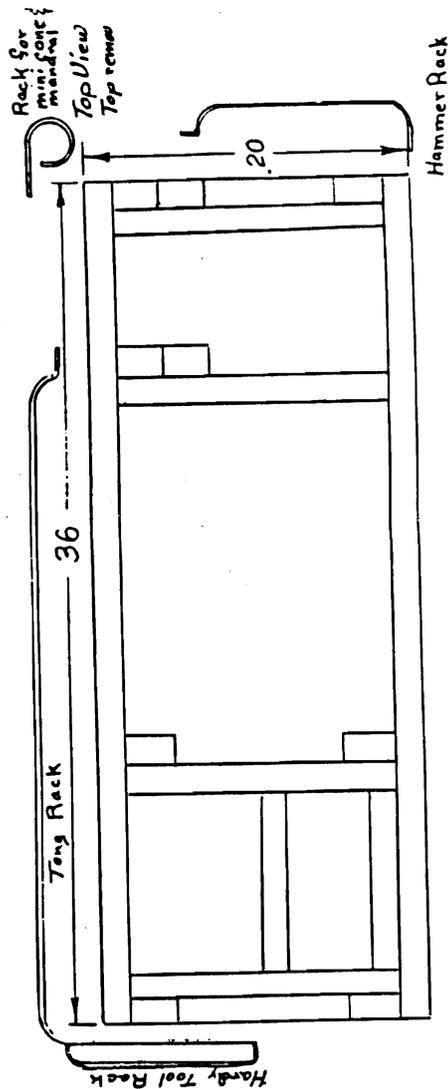
-- The Anvil's Ring is readable. It is an entertaining yet thought provoking flow of information which is pleasurable absorbed. By having your own copy you build a valuable reference library of ideas and sources you will keep referring back to over the coming years.

-- Belonging to ABANA will make you a better smith. By having the above advantages, your progress will be swifter and your mistakes fewer.

-- Join ABANA for you, not for its sake alone,



(Suggest adding one set of wheels for moving. - ed)



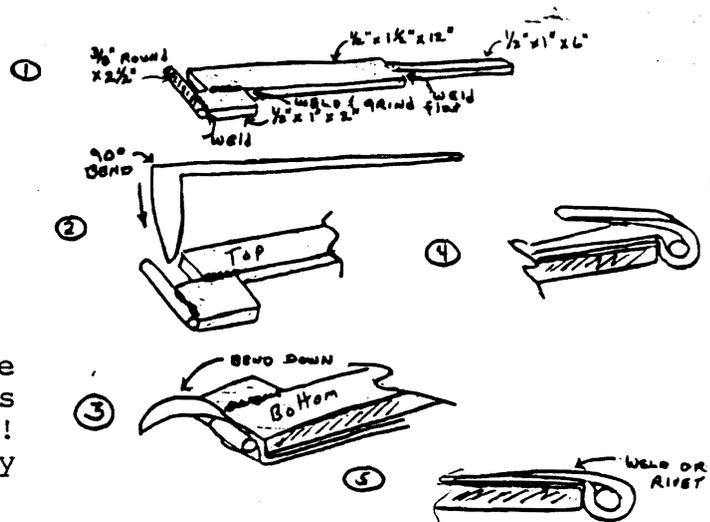
All frame work is 2x4's, glued and bolted. Back and sides are 3/8 plywood, Top is 2x4's, glued and screwed. Size can vary to your needs. I have found this combination anvil stand-bench easy to work from and well organized for a smith that demonstrates at different events.

Dave Hartwig

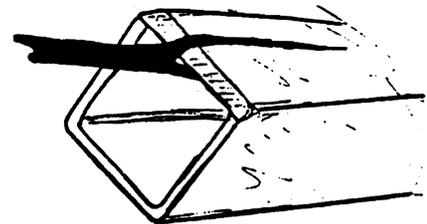
SHOP TIPS AND TECHNIQUES: The following were, for the most part, paraphrased from other ABANA Chapter or affiliated group newsletter. While the information presented herein and elsewhere in this newsletter is believed to be accurate, neither SOFA nor ABANA assume any responsibility or liability for the accuracy, fitness, proper design, safety or safe use of any information, technique, material, tool design, use, etc. USE IS SOLELY AT THE USER'S OWN RISK:

- ANVIL STAND: A good anvil stand can be made by cutting down a 25 gallon drum to the appropriate height, filling it almost to the top with sand and setting in the anvil on a piece of plywood to keep it from working its way down into the sand. (By Mack Beal from the June 1975 issue of The Anvil's Ring).

- STRAY HINGE EYE BENDING JIG: A recent order for 46 strap hinges, 18" long, 1½" wide, and 1/8" ticks, with a full taper to the "ball" end, and a 3/8" pintel eye, necessitated the fabrication of a jig to assure staying within allowance for +/- fudge factor, plus the pintels were already in place and out of state! The results of a trip to my scrap pile produced the jig shown in figure 1. The size of the jig is determined by the size of the hinge needed - make yours to suit you needs as assembly time is less than five minutes! I suggest making the jig as heavy or sturdy as practical, as you will be hammering the eye around the pin also, in finishing the back taper the unit will be on the anvil while the hinge "tail" is hammered down to its final taper. To use the jig, first bend the hinge 90° at the proper place to give the overall hinge length you need, then place the hinge into the jib as shown in figure 2 (work quickly). The hinge eye will be aligned at right angles to the hinge by quick pressure on the hand holding the jig and the strap together (you don't even have to look, since this alignment can be felt by the holding hand). Once the hinge is in the jig, place the whole set up over the edge of the anvil with the tail pointing down, a couple of quick hammer blows will set the hinge flat onto the jib and assure a good 90° bend. Quickly turn the jib over and hammer the tail around the pin while it is still hot - figures 3 and 4. Hammer on the end of the hinge to roll the tail tightly around the pin and onto the back of the hinge until the tail lies flat on the back of the hinge - figure 5. By this time most of the heat will be gone from the hinge, so remove the hinge from the jig, reheat (up to welding temperature is required), place the hinge back on the job, and finish tapering the tail down to where you want it. Raise the hinge off the jig slightly, turn the jig and tap the jib on the edge of the anvil and your hinge will fall off! This simple jig will help you insure your hinges are of the correct length and will produce a perfect "eye" each time exactly where you want it. After doing two or three, you will find you can complete a hinge eye in less than a minute! Lots better than the old way of guessing where to bend, how much stock is needed for the eye, much hammering, drifting, curssing, and difficulty in making any two alike - try it on your next hinge project. (By Stan Strickland from the newsletter of the Tullie Smith House Blacksmith Guild).

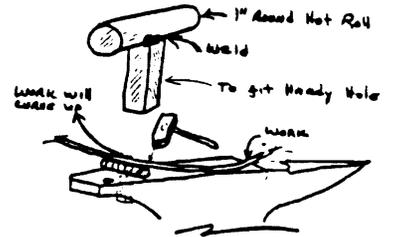


- A HANDY JIG FOR TIGHT CORNERS OF SPLIT WORK: Most of us have trouble working the inside corners of split work, such as found on forks, etc. This jig makes it much easier to do things like taper the tines of a fork for one thing. The jig itself can be mounted in the hardy hole by welding on a square piece of stock or in the vise by welding on a rectangular piece of stock. To make the jig, use a length of square tubing 3 to 4" long and at least 1/4" wall thickness. Next, sharpen one wall of the tubing as in the drawing. Use the jig as illustrated in the drawing. (By Stan Strickland from the newsletter of the Tullie Smith House Blacksmith Guild).



- JOINING JIG: To make one long piece out of two short ones, here's what to do. First take a piece of angle iron 8" long and cut a hole in the center about 1" or so. The pieces to be joined are then placed end to end over the cut out hole. The angle iron serves to align the centers (of stock the same diameter), then all you have left to do is either braze or weld the two pieces together through the hole. This technique works great for extending drill bits - just watch the heat. (By Paul Armbruster from the newsletter of the Tullie Smith House B-S Guild).

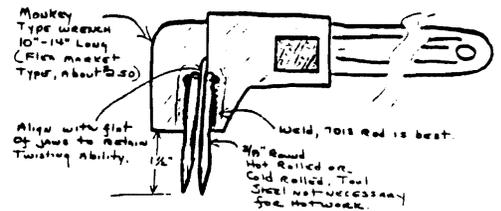
- BENDING HELPER: Bending large pieces on the anvil is usually done between the table and the cutting platform. This is sometimes hard to do if the piece is long or the bend is acute, as the horn of the anvil is in the way and has a tendency to make the work move side to side. This jig will help with these complicated and simple bends - and it works great for bending cold stock. It consists of a hardy shank welded onto a piece of 1" round hot rolled.



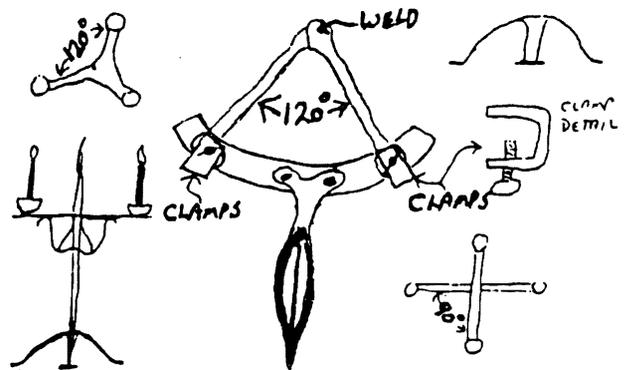
(By Stan Strickland from the newsletter of the Tullie Smith House Blacksmith Guild).

- ADJUSTABLE BENDING FORK:

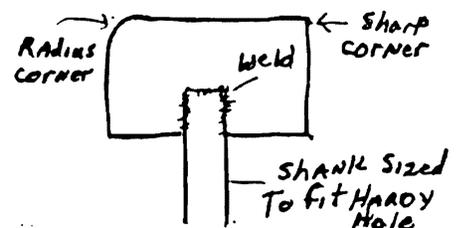
Most of you have 14 bending forks as I used to have, but never the right size for work which varies in many sizes. Scroll alignment in your finished work is important and this tool with the help of an acetylene torch will allow you to align your work in any plane. The ability to twist and bend any curve is readily adjustable with this tool. Everyone should have one in the shop. Also it will get you good comments from the "old" blacksmiths, like, "You sure messed up a good wrench". It is made by welding on two pieces of 3/8" round hot rolled or cold rolled to a 10"-14" long monkey wrench (about \$2.50 at flea markets). Welding with 7018 rod is best. (By Stan Strickland from the newsletter of the Tullie Smith House Blacksmith Guild).



- CANDLESTAND LEG WELDING ALIGNER: This device is for holding the legs of candlestands so they can be welded at the proper angle. This will work for three or four leg stands. The foot of the leg is clamped on the curved portion of the jig then the other leg is clamped into place on the opposite side of the curve. In this fashion three piece stands can be done in two welding heats and four leg stands can be done in one welding heat. Note that three legged stands are welded at 120° angles and four legged stands are welded at 90° angles. (By Steve Gossett from the newsletter of the Northwest B-S Ass'n).



- HARDY RADIUS BLOCK: Here is a handy tool which keeps you from hunting for that right edge on your anvil top. Use a clunk of 2" stock or whatever you have handy. Weld a shank suitable to fit your anvil's hardy hole. Keep one edge of the stock sharp and radius the other three edges to different radii. Just turn the radius you need away from you. (By Steve Gossett from the newsletter of the Northwest Blacksmith Ass'n).



- RESTARTING FIRES: When you have left your fire unattended and it will not be revived no matter how hard you crank it, try this. Sprinkle a handful of sawdust over the still hot coke. If you haven't cooled it with your frantic cranking, it will burst into flame. It will take some fussing, but you will be back in business soon. Darryl Nelson of Washington showed me this trick. (By Doug Hendrickson from the newsletter of the Blacksmiths Ass'n of Missouri).

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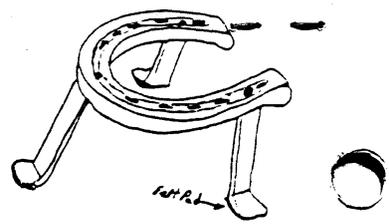
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- HORSESHOE TRIVET: For you folks who have access to old house-shoes, here is a dandy gift for farriers to give their customers or as a craft item. It is from "24 Blacksmithing Projects" by Percy W. Blandford ---- available from Centaur Forge. Round, square or rectangular legs can be added. Felt pads should be added to the bottom of the legs to avoid scratching tabletops.



- OILING POWER HAMMERS: Use chain saw chain oil to oil your power hammer. It stays on longer, less oiling required, less friction produced and leads to a longer life. (From the newsletter of the Florida Artist Blacksmith Ass'n).

- A NEW BUT OLD FINISH: While at the 1987 BABA Conference, I saw a number of works which had a graphite shine. After talking with several British smiths I found that indeed this is a graphite finish and very similar to the stove polish many of us have used. They apply the graphite with a brush over fresh wet paint. The particles of graphite adhere to the wet paint and when the paint dries they rub briskly with a soft cloth which brings out a nice shine. (By Bill Callaway from the newsletter of the Arizona Artist-Blacksmith Ass'n).

LOW COST CROSSPEEN HAMMERS: 1000 and 1500 kg crosspeen hammers are available at Odd Lots in Huber Heights (and probably at other locations) for \$2.99 and \$3.59, respectively. Hans Peot says the head is a decent metal.

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