



Sofa Sounds

Southern Ohio Forge & Anvil

VOL 94 -2

MARCH/APRIL 1994

MARK YOUR CALENDAR: Unless otherwise noted, all meetings will be held at the Studebaker Frontier Homestead on St. Rte. 202 about four miles north of I-70 and two miles south of the intersection of St. Rte 571 and 202. Please do not park in the grass or block access to a production area. Donations of items to support the newsletter are always welcome. Finger food and cold drinks provided on a break even, honor donation basis. The forges at the homestead are available before and after the meeting for individual projects. Bring and wear safety glasses.

Demonstrations are open to the public and are at no charge. Meetings start at 1: PM.

Upcoming Events

May 7, 1994

SOFA MEETING at the Studebaker Homestead.

Scott Murray Hinged Pot lifter

June 4, 1994

SOFA MEETING at the Studebaker Homestead

Ken Scharabok Fleur de Lis

July 10, 1994

SOFA MEETING at the Studebaker Homestead

note date change due to the 4th of July weekend.

Steve Roth Tongs

QUAD-STATE 94, 23 & 24 Sept 1994

Miami County Fairgrounds at The Blacksmiths' Shop

President's Note from Ron Thompson

Some good news to report, we've signed the contract with the Miami County Fair Board. Applications have been made to the EPA and for a building permit. We have retained the services of an architect (required by law for a public building) and also of a septic system contractor (a new law requires handicap accessible restrooms). We've lined up an electrical contractor and are ready to go as soon as the permits are approved. The building should be up in a couple of months. The facility will include a coal bin to supply members and that has been approved by the EPA.

Club News

MARCH INVOCATION: Keith Sommers

Item sales--- call these people to arrange for delivery and payment at the next meeting

coal sales: Bob Cruikshank 513-323-1300

kevlar gloves: Ed Rhoades 513-335-2431
video tapes: Hank Steinmetz 513-548-9084

Ken Scharabok submitted the following letter:

Occasionally at SOF&A meetings or Quad-States, I run into guys who say they would like to become full-time blacksmiths but cannot afford to attend classes or buy equipment. The following is suggested:

Contact the dozen or so schools offering blacksmithing courses (e.g., John Campbell Folk School) and try to negotiate a deal to where you will work for a year or two for room, board and some pocket money in exchange for being able to take one or two classes a month, starting with beginning - and then intermediate-level. Where possible, as class projects make items you will need in the future. This would give you the opportunity to learn under some of the best blacksmiths in the U.S. today.

After that year or two apprentice to a production shop in your area of interest to hone your skills for 2-3 years. During this period start to assemble or make the rest of the equipment you will need to start your own shop. After this find a full-time job and start blacksmithing on your own in the evenings and on weekends to build up a reputation and clientele. Then gradually transition to blacksmithing until it is a full-time job.

Thanks Ken, it's timely and good advice.

Note that Cedar Point is looking for a blacksmith. The position is available from Memorial Day weekend through Labor Day weekend. Call Jason W. Steckel at (419) 626-0830 ext. 2566. More info and applications available from Richard Kern at 513-372-9100. Information submitted by Doug Fink.

Thanks to Brad Cramer for arranging with Howard Paper Mills to donate paper to SOFA for the newsletter



**NORTHWEST OHIO BLACKSMITHS
EIGHTH ANNUAL HAMMER-IN
MAY 14-15, 1994
AUGLAIZE VILLAGE DEFIANCE, OHIO**

Welcome to another exciting blacksmithing event in northwest Ohio. We encourage all those with an interest in metal smithing to enjoy a relaxing weekend of demonstrations, workshops and fellowship with others interested in the craft. All of this plus camping, good food and the usual number of real blacksmith tales.

Pre-registration is helpful but not required. All participants are encouraged to bring portable forges, anvils, vices and hand tools for their own use as well as provide smithing stations for the Hands-on Workshop and contest activities. Coleman lanterns would also be helpful.

CAMPING AT AUGLAIZE VILLAGE

FEE = \$6.00 per night per unit Trailers, Motor Homes or Tents NO HOOK-UPS
Ground fires with ground ring are allowed if you provide your own fuel.
Rest rooms are near camping area.

SAFETY IS IMPORTANT! WEAR SAFETY GLASSES!

For additional Hammer-in information call:

Paul Davidson 419-865-4212
Tom Robinson 419-877-5273

Gene Papin 419-636-5455
Tom Goodman 419-823-3280

**REGISTRATION FORM
N.O.B EIGHTH ANNUAL HAMMER-IN
MAY 14 & 15, 1994**

		HOW MANY	HOW MUCH
FEE 2 DAYS	\$20.00	_____	_____
FEE 1 DAY	\$15.00	_____	_____
SATURDAY EVENING MEAL	\$7.50	_____	_____
CAMPING PER NIGHT	\$6.00	_____	_____
SATURDAY HANDS-ON	\$5.00	_____	_____
SUNDAY HANDS-ON	\$5.00	_____	_____
DUES		_____	_____
RENEWAL	\$15.00	_____	_____
NEW MEMBER	\$20.00	_____	_____
FRIDAY NIGHT BBQ		_____	_____
S-HOOK CONTEST		_____	_____
SPOUSE/FAMILY ACTIVITIES		_____	_____
		RETURN SEPARATE PAGE	
TOTAL REMITTANCE		_____	_____

Make checks payable to Northwest Ohio Blacksmiths Association.
Mail to Hammer-in Committee
-Paul Davidson
6847 Hill Ave.
Toledo, Ohio 43615

WAIVER OF LIABILITY MUST BE SIGNED BEFORE ADMITTANCE TO VILLAGE

I am attending the NORTHWEST OHIO BLACKSMITHS HAMMER-IN 1994 at Auglaize Village. I am aware that blacksmithing involves the risks of splashing flux, flying chips and bits of hot steel, broken tools, loose hammer heads and a whole lexicon of ways to hurt yourself everybody around you; but I am going to participate anyway (and even pay an attendance of admission fee) knowingly assuming the risks of injury. If I leave this event with all the parts I came with, I'll be greatly relieved. If they carry me out wearing a loose hammer head or broken power hammer spring between my eyes, I want my family to know that I went to the Master Forge a happy smith.

IF YOU LET ME WATCH OR HELP, I PROMISE NOT TO SUE YOU, THE TEACHERS, THE DEMONSTRATORS, THE VILLAGE OR FELLOW SMITHS IF I GET HURT DOING IT.

NAME _____
ADDRESS _____
CITY/STATE _____
PHONE # _____

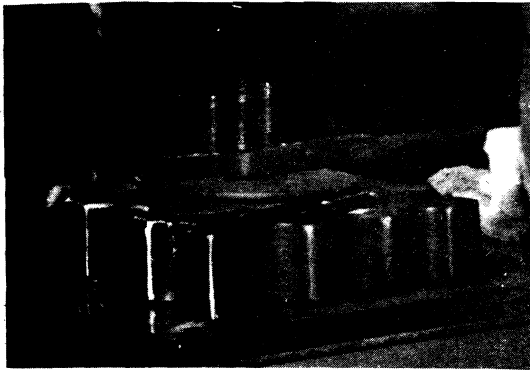
March Featured Demonstrator

March Demonstrator Doug Fink

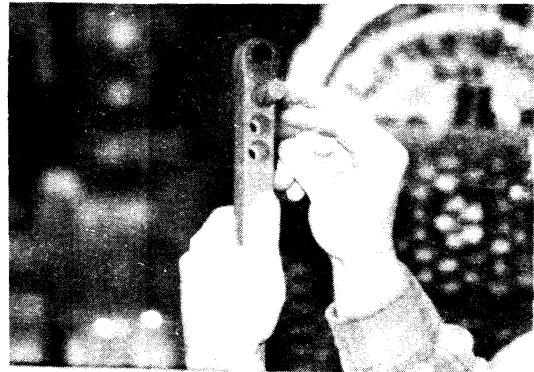
Doug is a welder by trade and has been blacksmithing since 1980. A lot of his work is interior ironwork and uses organic/plant motifs and animals.

SHEET METAL FORGING AND TOOLS

Welcome to our meeting, we have an outstanding demonstrator. Doug started off with a three pin bender from design published several years ago. If interested it can be republished. Note that the hole for the pin does not go straight though but is countersunk (check this out). Rollers on the pin keeps stock from being scored. Additional leverage is obtained with a cheater pipe. 5/8 pins will bend 1/2" dia. stock. Just built one with 1" pins that should bend 3/4" stock



Three Pin Bender



Handle for bender

FORGING A LEAF

(ED. Note that these leaves are heavier and larger than most I've seen recently and fit nicely with larger designs.)



Dog bone tool for veining

1/8" sheet work well here. Mark lines for veining with a chisel. The marks will soften as we work the material and some of it scales off.

This is a 'dog bone' tool with large, well rounded edges to keep from scaring the work. This is used to form the main groove or leaf vein and uses the chisel lines as a guide. Yes, it is made from the best TU tool steel!

(NOTE: *It is well known that this is one of our BTS items, a Blacksmith's Trade Secret, it is essential that we know our steel type designations so FYI, TU is Type Unknown and is equivalent to S1, Scavenged 1st Class. :-)

Trace outline and cut the blank out with an Oxy/Acetylene torch.

The end goal is shown in the next two photos.

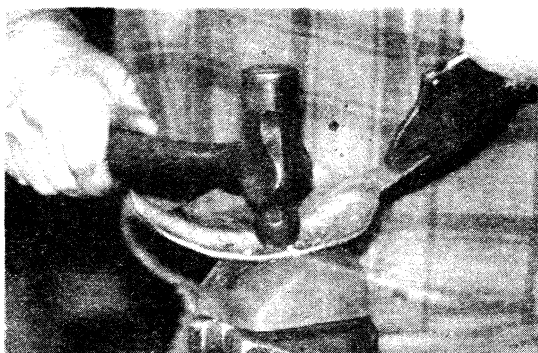


Finished Leaf, top



Finished Leaf, bottom

Following the chisel cut form the main vein over the tool and continue to deepen the relief. The sheet steel does not have a lot of mass so a heat does not last long and you have to work quickly.



Vise held bowl block

To put more depth and curve in the leaf Doug works the sides down into the bowl depressions of a swage block. He polished the working faces so the leaf would maintain its smoothness. No marks on the swage block means no marks on the work. Doug sets the swage block working face at the same height as the anvil and that allows it to double as a helping hand if necessary for other work.

Flatten the edges of the leaf by rolling them over with the hammer to soften the outline.

Next in use is a former made from the end grain of a hardwood block. Grind this to shape before hand. Keep it wet and the wood lasts longer. The end grain doesn't burn very easily. This is used in any forming operation for steel up to 1/4", use it like a swage block.

Next is the cast tool with rounded edges to further refine the shape and depth of the leaf. The curve in the leaf is the natural result of metal being stretched. Encourage it and work it into the final shape as it adds character to the leaf.

Finished with ball peen over vise mounted cast tool to add subtle changes in surface. Bring the whole edge line of each side down. Use a rolling action with the hammer smoothing out the lines of each side.

✕ A 3' section of a hardwood stump with depressions for spoons, gouges works well as a swage block. When the holes get too deep, make a new hole or cut a slab off for a new surface.

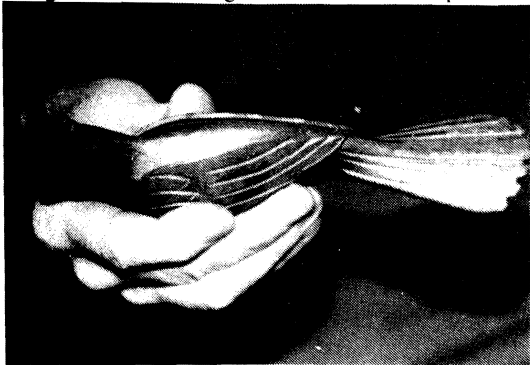


Working over the round head stake

FORGED CARDINAL

The same weight stock is used here. 1/8", the basic idea is to create two matching halves and weld them together.

Finished product. The halves are heli-arc'd together and the bird has extensive chisel and file work. Mounting can be done using the feet or adding another attachment point.



Completed Cardinal, ready to mount off to the white paint. Now you can do the chisel work on the wings and body before cutting out these parts. Now heat the piece to be forged and insert your "end grain swage block" into the anvil and begin hammering out the body hollows.

The pattern comes from a wood working book of patterns. You will need to make a left and right side copy. Doug suggests that in choosing a pattern and executing it, stick to a few prominent features on the animal and do them well. The rest flows into the form and it will be recognizable as the creature you patterned it after.

In choosing the cardinal pattern Doug adds more depth to the belly to end up with more metal there and a more rounded appearance.

Lay the pattern on the steel and transfer it. A good method is to use a white paint and copy paper or pencil drawing that is rubbed

⊗ HOT TIP--The reason for using the end grain block is that the wood yields to the hammer blows and doesn't destroy the chisel marks. Using the swage block would flatten the grooves and marks you put on the outside.

For areas without chiseling, the swage and vise mounted tool are used to give depth to the body. The tail needs to be twisted perpendicular to the body and spread a little. The whole forging process will soften the chisel lines and edges as the steel oxidizes and this helps to reduce the amount of needed finish work. After welding the pieces together heat and hold in vise to do final forging on body. Attach to the project by welding.

April Featured Demonstrator

Demonstrator: Keith Sommers. He has worked with wrought iron since grade school. His father's farm had a blacksmith shop that dated from the 1850's and has done a lot of cold work.

FORGING WROUGHT IRON



Welcome friend to the April meeting. Keith noted that wrought iron tends to get brittle with age and doesn't scale as much as steel does. This is a good choice of material for outside use or application as it resists corrosion. You can see this in older galvanized pipe which was made from wrought iron. The silica acts as a corrosion barrier, the coarse surface gives a better tooth for a mechanical bonding of the zinc coating so the zinc lasts longer. Current galvanized pipe is steel and doesn't last as long. An easy test to tell the difference is to cut a section of pipe and flatten it. If the zinc peels when flattened then it's wrought steel and if the zinc stays on it's wrought iron. Keith offered the following handout on wrought iron.

genuine wrought iron

Wrought iron differs from all other ferrous metals such as steel, commercially pure iron and cast iron in that it consists of highly refined iron and iron silicate, a particular type of glass-like slag. These two components are in physical association, as contrasted to the chemical or alloy relationship that generally exists between the constituents of other metals. The iron silicate content in wrought iron varies from about 1% to 3% or more by weight and is distributed throughout the iron base metal in the form of threads or fibers which extend in the direction of rolling. These threads give wrought iron a tough, fibrous structure similar to that of hickory wood.

resistance to corrosion: The siliceous slag fibers embedded in the base metal are present in such great numbers that they act as a mechanical barrier against corrosion and, under most conditions, force it to spread over the surface rather than penetrate into the metal. A protective scale develops which is thin but at the same time dense and tightly adherent to the surface.

resistant to the effects of shock and vibration: Wrought iron is recognized as an excellent material for service where shock and vibration are encountered. The presence of slag fibers minimized stress concentration and assists in preventing fatigue failures. Wrought iron is used extensively by railroads for drawbars, equalizer bars and other forgings, air brake piping, bolts and parts where shock and vibration are important factors.

adherence and weight of protective coatings: Under some corrosive conditions the useful life of metals is increased somewhat by the application of a protective coating, the value of which depends largely upon its adherence to metal surfaces and imperviousness to moisture. However, the durability of the installation is influenced primarily by the corrosion resistance of the metal itself, because, after the coating is destroyed the relatively thicker metal must withstand the brunt of the corrosive attack. The natural surface of wrought iron is rougher than that of other metals due to the presence of the slag fibers and a better anchorage is provided for galvanized coatings. As a result, wrought iron will take on a natural zinc coating which is 25% to 40% heavier than that on other metals, thus making the coating itself longer lived.

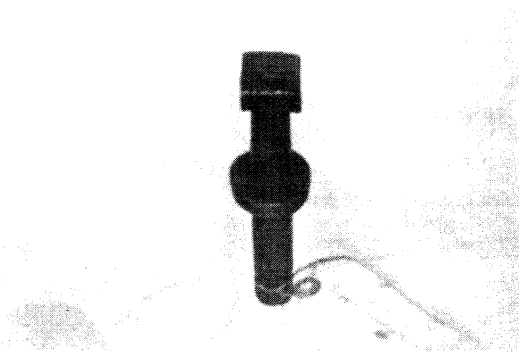
weldability: Wrought iron is an easy material to weld because it is self-fluxing and any of the commonly used welding process, such as oxy-acetylene, electric fusion, electric resistance and forge welding may be employed.

forming, machining and threading: Wrought iron is readily formed to meet practically any ordinary requirements. Forming may be done either cold or hot depending upon the severity of the operation. Machining and threading operations are easily accomplished due to the soft, fibrous structure of the metal.

tensile strength: 48,000 psi for wrought iron and up to 60,000 psi for nickel wrought iron.

Now that we described such a miracle metal, why isn't it readily available and in wide use? The answers are that it is expensive to produce and other metals have been designed that are considered to be even better in specific applications. Wrought iron is an expensive general purpose metal and not in style with metals engineers.

Keith showed several items that were made at various times from wrought iron.



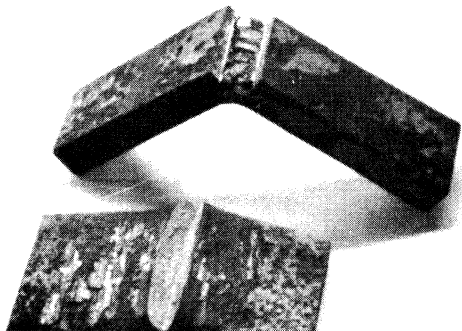
Bolt with forge brazed collar



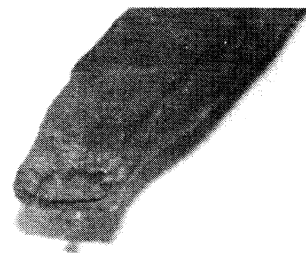
Hinges and handle

EFFECTS OF TOO LOW A HEAT

Drawing out and hammering at a low heat will cause the wrought iron to split along fiber lines. The more slag and scale in the material will cause it to split sooner as the temperature goes down.



Fibers in the Wrought Iron

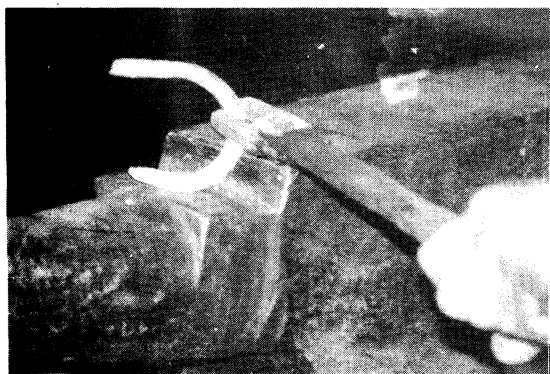


Split end

The nice thing about wrought iron is that problems like this can be corrected. Keith reheated the bar to a welding temperature and welded the split end back together. The material is self fluxing as it contains the necessary silica. How hot does he get it for welding? Hot enough so that some sparks are flying as it leaves the fire.

WELDING A CHAIN LINK WITHOUT FLUX

The stock for the chain link is tie bolts from cast iron radiators. These are cast iron and work very nicely



Link ready to weld



welded and twisted link

FORGE WELDED FOUR ROD HANGER

Using four rods tied together Keith welded the ends without any flux or wire brushing and made sound welds. He drew one end out to a rat tail maintaining a square cross section. When he reached the final length, the end was tapered and then rounded on the corners. You have several options here, Keith says an octagon looks nice here and the audience volunteered that a challenge is to do a hexagon cross section. Form a hook as shown.



Starting work on the bundle



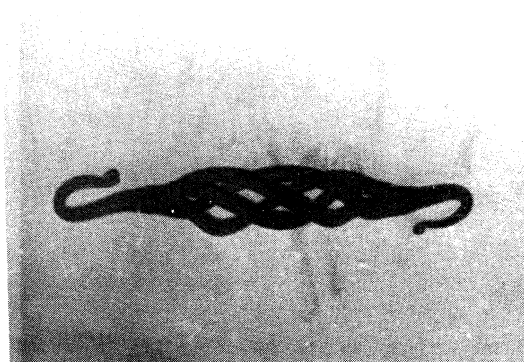
Forming the first hook

The next step is to bring the rods to an even red heat to prepare for twisting. When heating the body, quench the ends so they are cold. This keeps the ends from overheating and burning.

Untwisting is done with help from pliers to adjust the bars for even spacing. Keith mentioned that it is important to push on the bars as you untwist so there is pressure to bow the iron and open it up.

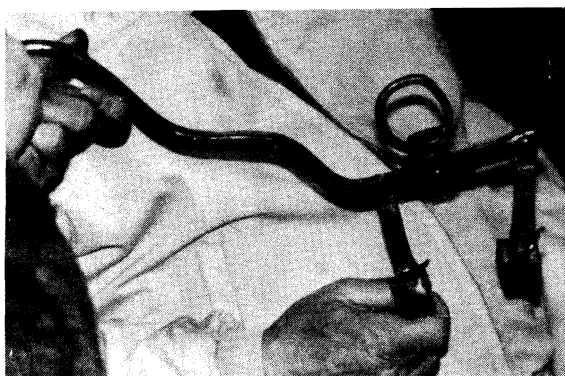


Untwisting and evening out the twist

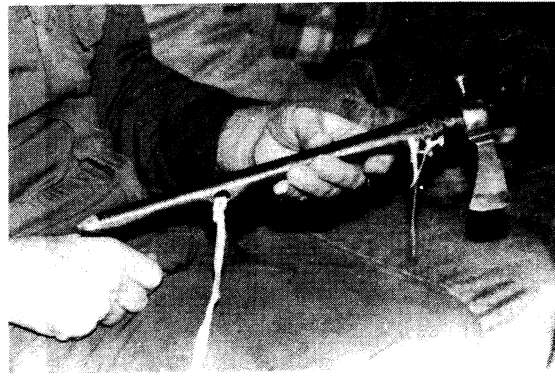


The finished four rod hook

Member's Work



Scott Murray's teakettle hanger



Nicely detailed tomahawk, Scott Murray



ladles, engraved with brass cup , John Murray



Damascus skinner with Damascus fittings, Adeli Stein

ABANA message

ABANA

Artist-Blacksmiths' Association of North America



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

Office Hours: 9:00am - 5:00pm
Phone: (812) 988-6919

ABANA PRESIDENT'S MESSAGE

April, 1994

Dear ABANA Chapters,

In an attempt to catapult ABANA into the twenty-first century, we have embarked on an ambitious plan to launch blacksmithing into outer space. This is not as far fetched as it may sound; remember that all throughout history, blacksmiths have been among the first to blaze trails across the frontiers. Experiments already conducted in the zero gravity environment have proven to be extremely problematic, however. Water from the slack tub, floating around the orbiting blacksmith laboratory, combine with the burning coal from the forge, also floating around, make billowing clouds of steam. Ordinarily, that wouldn't be a big problem; but unfortunately our crack team of astronaut-blacksmiths keep opening a window to get some fresh air, with rather disastrous results. Anyone wishing to become a part of this program, and replace our dwindling supply of astronaut-blacksmiths, please send a resume to ABANA/NASA Astrosmith Research Project, 1234 April Fools Drive, Coaldust, South Dakota.

Seriously now, I know that there aren't very many giant sized blacksmiths out there. But it is nice to know that ABANA is serving their needs as well! Please bear with me while I point out that among our other fine conference souvenirs, we will have tee-shirts in sizes up to 3XLT! This was a request from an extra-large ABANA President, yours truly. As an aside, I would also like to say that I have seen the tee-shirt designs, as well as the belt buckles and other memorabilia, and they are really beautiful! So while I know that people don't go to conferences just for souvenirs, I can tell you that the June, 1994 ABANA Conference in St. Louis Missouri, will have some great ones.

What's good for the goose is good for the gander dept. or why let the Chapters have all the fun: The Chairman of the ABANA Rings Project has asked the ABANA Board members to make some rings as well! It may have occurred to you that with the number of Chapters sending rings in to the ABANA Rings Project, that 1) they will have quite a few beautiful rings to choose from, and 2) what they do with those rings will be an awesome sight to behold! Just think about all those rings for a moment - carefully crafted, the very best the Chapters (or Board members!) have to offer, completely random patterns other than the ten inch parameter! I can't wait to see the finished products!

The '94 ABANA Conference packets are being mailed out this month to ABANA members for pre-registration. If you do not receive yours by the first of March, you may send a postcard to the committee with your request: ABANA Conference '94 - PO Box 453 - Valley Park, MO 63088.

What weather. Spring has definitely sprung, the shop doors have flown open! This would be an excellent time to do a little spring cleaning. After all, why else would they call it spring cleaning if you weren't supposed to do it in the spring? The obvious benefit is reduced fire hazard, but it also has the added benefit that a clean shop is easier on the eyes!

Wishing you beautiful spring weather,

Clayton Carr
ABANA President

Ron Turpin submitted this challenge along with Longfellow's poem. "The Village Blacksmith". Are you blacksmith enough to meet the challenge? During his research, Ron discovered that there really was a blacksmith shop like Wadsworth described. The blacksmith was Longfellow's neighbor. There also was a "spreading chestnut tree" which also became famous. Eventually the tree began to die and large limbs would break off, so the town fathers decided to cut the tree down for safety reasons. Because of the fame brought about by the poem, the tree was converted into lumber and a chair was made for Longfellow. Now, here's Ron's contest or challenge: the *first* person who can tell him the real name of the village blacksmith in Longfellow's poem will win a free one (1) year subscription to "SOFA Sounds". For those who have already paid, he will submit the \$5.00 fee for the next year. You may call, write, or deliver in person the name to Ron Turpin. Phone: 513-393-4815. Contest ends when the next newsletter come out, only one winner. Ron Turpin is the sole judge. Winner and name of the village blacksmith will be published in the next newsletter.

ANVIL SHOOT LIABILITY:

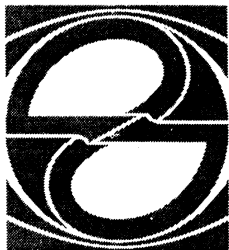
Re-read, reprint and study Tim Ryan's article on Anvil Shooting in the January 1994 *Texas Forge Review*.

Let me scare you a little with a hypothetical situation:

George X is a retired engineer who took up smithing after his wife died and serves as a Chapter Director. The Chapter schedules a public conference. The Board talks about the danger, but decides to end the day with an anvil shoot anyway, without much thought to who is going to do it or how. Member, Billy Bub has an old anvil he's willing to risk so he gets the job. Without any supervision from the Board, Billy Bub thinks he doesn't have enough black powder so he throws in the remaining cans of smokeless from his reloading table and since he only has one anvil to risk, he uses an old swage block on the bottom and adds a two inch plate of unknown material with a hole in it to make room for his arbitrary volume of explosives. At the last minute he throws a dynamite stick. Billy Bub has been drinking again. When the swage block shatters, one of the pieces takes out a spectator, the steel plate discus decapitates another and when the anvil finally comes down it lands on a wheel chair spectator, the only 3 people besides George in Yaknapatwaffa County with high paying jobs.

Their widows hire me. After I get your Chapter's \$2,127.13 treasury, I'm going to get George's house, cars, savings & retirement plan for voting to allow this catastrophe . . . kill my client. I kid you not.

Samuel Yellin
tooling,
Computers for
blacksmiths,
Hands-on
forging,
Traditional
ironwork,
Architectural
ironwork,
Hardware and
tools, Trade show ...and much more.
Please fill out the form below to receive
registration info. See you in St. Louis!



ABANA Conference '94
P.O. Box 453
Valley Park MO 63088

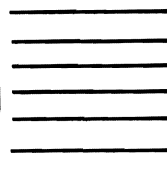
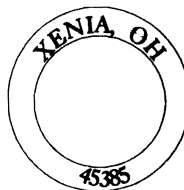
Name _____
Address _____
City/State/Zip _____

Mail to: ABANA Conference '94
P.O. Box 453, Valley Park, MO 63088
Note: If you are a current ABANA member,
you will automatically receive registration
information when it is available.

This issue used Microsoft Word output at 600 DPI, DTP halftones and offset printed.

SOFA SOUNDS

C/O Richard Kern
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Xenia, OH 45385



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MEMBERSHIP EXPIRATION: 6-94

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