



SOFA SOUNDS

SOF&A
SOUTHERN OHIO FORGE & ANVIL

c/o 1135 Spinning Road, Dayton, OH 45432

OCTOBER/NOVEMBER 1984

BOARD MEMBERS

Emmert Studebaker
Ron Thompson
Robert S. Zeller
Ralph Hopkins
David Sprengel

OFFICERS

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Duane Wegley, Vice President
Richard A. Franklin, Secretary/Treasurer

EDITOR

Kenneth Scharabok

UPCOMING EVENTS:

- | | |
|--------------|---|
| October 13th | SOFA PICNIC at the home of Ralph Hopkins. Look for details in this newsletter. |
| November 3rd | SOFA MEETING, followed by a demonstration on making a ram's head poker by Ken Scharabok. Ken is going to make the poker under the guidance of some of the more accomplished smiths. |
| December 1st | SOFA MEETING, followed by work on a homestead driveway gate for Emmert Studebaker. Look for details in this newsletter. |

EDITORSHIP CHANGE:

I volunteered at the August 4th meeting for the position of Editor of SOFA Sounds. In the past, the newsletter has been put out by the group's President and I felt that this was a way to help him out as well as the fact I like doing this type of thing.

Informal discussions with SOFA members indicate that the newsletter should be somewhere between a "beginner's newsletter" and a newsletter directed at the accomplished smith. Therefore, it is my intent to try to include local information/advice, items picked up from other ABANA group newsletters and items reprinted by permission from related publications in this intermediate level. Along this line, I encourage local members to send me items/articles based on their own experiences or those which they come across elsewhere which they feel would be of interest to the entire group. When furnishing material from other publications, please provide the source address so I can write for reprint permission. Material submitted for publication consideration can be handwritten so long as I can read it.

Another area I would like to emphasize is sources for tools and other blacksmithing supplies. If you come across a likely source, please let me know so I can put a source note in the newsletter. I will also run free, short classified ads for blacksmith-related items with the understanding that the prices asked are reasonable. In addition, please send in items such as someone looking for a blacksmith to demonstrate or looking for someone to do repair/restoration work.

Creative & Friendly

MEETING NOTES:

The August 4th meeting was held at Larry Wood's home and shop. The highlight of the business meeting was the SOFA baseball caps obtained for the group by Ralph Hopkins. These are 100% polyester, black, solid front, net back caps with the SOFA logo in yellow. Very nice caps for a very reasonable price of \$4.00 each. One size fits all. They can be obtained at any SOFA event. The short business meeting was followed by a tour of Larry's shop (including some of the items Larry makes for sale and some of the items he had been playing with to see how they looked when finished) and a demonstration by Ron Thompson (and others) on the effect of metal twisting on the length of the stock. The point demonstrated was that twisting has almost no effect on the length of the stock.

The September 1st meeting was held, as usual, at the Studebaker Homestead. The business meeting included an item that the group's leadership has volunteered to make a homestead driveway gate for Emmert Studebaker as a group project/learning experience. SOFA members were encouraged to submit designs at the group picnic on October 13th or or they can be sent to Hans Peot at 6425 S. Scarff Rd., New Carlisle, OH 45344. For planning purposes, I believe that the driveway is just over one lane wide at the point where the gate will be placed. This is a good way to partially repay Emmert for the support he has provided to SOFA as well as a good learning experience for the group. As such, I strongly encourage members to submit designs for this gate, keeping in mind the era of the homestead if possible. The business meeting was followed by a demonstration of pipe forging by Hans Peot using jigs he had made which fasten in the hardy hole. He showed how to neck down and then end taper a length of pipe without crimping it. One tip shown was to put a wooden plug in the holding end to avoid fumes heating up this end. In the past, Larry Wood has pointed out that care should be taken in quenching a pipe since a blast of steam can come out of the other open end. Following the demonstration, several members gave various tips:

-- I pointed out that, as a result of watching and talking to one of the demonstrators at ABANA 84 in DePere, WI, I now use my anvil with the horn pointing towards my hammer hand as I face it. This serves two primary purposes, it keeps your hammer hand well away from any tools left in the hardy hold (and, in fact, they can be left in without worrying this way) and it is easier to use the horn for bending purposes. Try it this way to see how you like it - I do.

-- Emmert Studebaker pointed out that the rule of thumb that the anvil height should be at knuckle height is just that, a rule of thumb. He has to have his higher since his arm span is long for his height. Apparently wrist height (or even higher) is preferred by many smiths to avoid excessive bending over.

-- Emmert also showed some jibs he made some years back for making hot dog forks. One jib puts twists in the square stock cold (by hand) and the other two bend the forks in a "U" shape and then put a rounded curve at the point where they were welded to the shaft. He noted that he would be willing to work with a local smith to make a hand operated, square rod twister if they have a need for one. Contact Emmert for details.

SOFA PICNIC:

The 1984 SOFA picnic will be at Ralph Hopkin's business (11591 N. Dixie Dr., Tipp City) on October 13th at 1 PM. SOFA will provide meat (burgers, hot dogs, etc.), buns and soft drinks. Each party is requested to bring a covered dish, salad or dessert to share. Bring your own beer but discretion is requested. RSVPs are required to Ralph at his business phone (667-1170) or home phone (898-7793) as soon as possible. There will be a volleyball net up, horseshoe pit, and plenty of room to play softball,

so bring bats and balls or other sports equipment (I hereby challenge the under 35's to play the 35's and over folks - handicap to be determined). Last year's picnic at Larry Wood's home was fun and I expect the 1984 one to be similar - so make your plans now to attend. DIRECTIONS: Hopkin's Machine Co. is on North Dixie Drive about 1 1/2 miles north of Rt. 40 in Vandalia. It's on the left as you go north. Look for the business sign (next door to North Dixie Tool Corp.).

HOW IRON TECHNOLOGY CHANGED THE ANCIENT WORLD by Hans Peot:

Modern historians divided the 3,000 year-period beginning approximately 3,200 B.C. into two major segments - the Bronze Age and the Iron Age. The Bronze Age extends from 3,200 B.C. to 1,200 B.C. Thereafter, it is the Iron Age. Much of the history of the use of iron is recorded in the Bible. It appears that the Philistines had an iron monopoly which enabled them, at least for a time, to dominate the Israelites. Reference this famous passage from 1 Samuel:

"There was no smith to be found in all the land of Israel, for the Philistines had said to themselves, 'The Hebrews might make swords or spears!' so all Israel would go down to the Philistines to repair any of their plowshares, mattocks, axes or sickles. The price was a palm for plowshares and mattocks and a third of a shekel for picks and axes or getting an ox-goad. So at the time of the battle of Michmash, neither sword nor spear was available to any of the soldiers who were with Saul and Jonathan - only Saul and Jonathan had them". (1 Samuel, 13:19-22, Anchor Bible translation).

The Bronze Age, beginning in about 3,200 B.C., witnessed the introduction of an alloy known as bronze, consisting of about 90 percent copper and 10 percent tin. The entire casting operation is depicted on the walls of Egyptian New Kingdom tombs, the most famous is that of Vizier Rekhmire. This does not mean that iron was not used at all. On the contrary, iron objects were known from as early as the fifth millennium B.C. But, until the coming of the Iron Age, iron was an exotic, semi-precious metal, for example, in jewelry. We even have examples of an iron bezel in a gold ring from the late Bronze Age. Iron was also used for the manufacture of ceremonial weapons. An iron battle axe from Ugarit (about 1,400 B.C.) and a dagger from the tomb of Tutankhamen in Egypt (about 1,350 B.C.) are examples.

These early iron objects were not cast, because the iron could not be heated to a molten state; instead they were wrought. The iron was forged, after smelting in a bloomery, while it was in a semi-solid, spongy state (bloom).

The pure iron worked in this way was not very utilitarian. Indeed, plain wrought iron is decidedly inferior to tin-bronze, being both softer and less durable. The work-hardened edge of a bronze cutting instrument was far superior to anything which could be produced in plain wrought iron.

The Iron Age, beginning in about 1,200 B.C., became the age of the blacksmith. The first recorded reference to the profession of blacksmithing comes in an archival text from the reign of Assyrian King Ninurta-tukulti-Assur, about 1,132 B.C. The work of the blacksmith is vividly described in the Bible. For example, in Isaiah 44:12 we learn about the manufacturer of iron tools:

"The blacksmith works it over the fire and beats it into shape with a hammer. He works on it with his strong arm til he is hungry and tired; drinking no water, he is exhausted". (Jerusalem Bible translation).

The same image is projected in Ecclesiasticum 38:29-31, part of a section dealing with trades and crafts:

"So it is with the blacksmith sitting by his anvil; he considers what to do with the iron bloom, the breath of fire scorches his skin, as he contends with the heat of the furnace; he batters his ears with the din of the hammer, his eyes are fixed on the pattern; he sets his heart on completing his work, and stays up putting on the finishing touches".

Carbonization of iron can be traced back to the 10th century B.C. How it was accomplished was not documented. Many of the artifacts from this time period show carbonization either by luck or by surface carbonization; holding the iron at high temperature with carbon covering the metal.

An iron pick found in 1976 by a young Israeli archaeologist, David Davis, near Sasa in the upper Galilee, shows carbonization and hardening. The iron pick is in a remarkable state of preservation and clearly dates to the early 12th and perhaps even 13th century B.C. Metallurgical analysis of the iron in this pick indicates that the manufacturer had knowledge of the full range of ironworking skills associated with the production of quench-hardened steel.

The Iron Age probably comes about because of exhausting copper and tin deposits in the area and the ready availability of iron ore deposits. Most of the research to date confines the research to the area of Cyprus and Israel. Clearly much more research is required to explore all the facets of the history of early iron making throughout the ancient world. During this same time period, evidence points to Pakistan and Japan as mastering hardening of iron with carbon. The reason for not revealing how the iron was carbonized may have been that it was protected as a trade secret so as to protect the inventor's livelihood.

((Article condensed from Biblical Archaeology Review, dated November/December 1982)

((I find it interesting to note that Christ, as a carpenter, must have been familiar with the blacksmith craft since many iron tools were used in the carpentry craft. - ed)).

SOURCES/NOTES:

- Dana R. Johnson (482 Pine St., South Weymouth, MA 02190 - (617) 337-2143) specializes in selling antique woodworking and metalworking tools including cones, swage blocks, anvils and handtools. Send your want list for availability/price quote.
- Richard Postman (10 Fisher Ct., Berrien Springs, MI 49103) is trying to obtain a sample of each brand of anvil made. If you have an old, off-brand anvil for sale, please contact him.
- Gichner's (2101 New York Ave NE, Washington, DC 20002 - (202) 529-2211) has hammers, hot punches, chisels, etc. for sale.
- Rivets are available in bulk from ABCD Industries (1320 Light St., Baltimore, MD 21230 - (301) 717-4111. This firm sells nothing else.
- Custom-made springs (no minimum quantity) are available from Kirk Habicht Co. (8950 Yellow Brick Road, Baltimore, MD 21237 - (301) - 686-9100).
- Barter Post (P.O. Box 17, Gainsville, PA 22065 - (703) 754-7321) has blacksmith handtools. Send want list for availability/price quote.
- Kenneth Lynch collected metal working tools from the U.S. and Europe. Many of these are now offered as part of the Kenneth Lynch Tool Collection Catalog (78 Danburg Rd., Wilton, CT 06897 - (203) 762-8363). Tools are reasonably priced. Catalog on request.

1984 ABANA

Conference

By Fred Holder

The ABANA Conference '84 was held on June 27, 28, 29, 30 and July 1, at St. Norbert College in DePere, Wisconsin. It was a beautiful campus with nine demonstration sites set up along the bank of the Fox River. The weather cooperated very well. It wasn't too hot, and rain came mostly at night.

Right up front, I would like to compliment the conference committee and all who worked to make this a super conference. I'm sure that all who attended join me in this compliment.

Actually, the conference didn't officially start until June 28, registration was held on June 27. This was also the time for people wishing to display their work in the official exhibit to register their contribution. Anyone who wished to exhibit their work in the Contemporary portion of the show was invited to do so, whether they could attend the conference or not. The Contemporary portion of the show was chaired by Lynn Fieldhouse of Madison, Wisconsin.

In addition to the Contemporary exhibit, a historical exhibit displayed the ironwork of the late Cyril Colnik. There were approximately 150 pieces of ironwork on loan from his daughter, Gretchen Colnik. Colnik, born in Tribien, Austria, in 1871, came to this country for the Columbian Exposition of 1893, where he was the recipient of a gold medal. He was invited to Milwaukee by Captain Frederik Pabst and was "Kunstschlosser" to the Milwaukee beer barons until his death in 1957. The exhibition opened at 6:00 PM on Friday, June 29, with a reception. It turned out to be a beautiful exhibition. Very definitely, quality ironwork was in abundance. The smith's are getting better all of the time.

I took quite a number of photographs of the exhibit area, but will include them in a future issue because there is only so much space for the conference coverage here.

The only problem with being a reporter and also a blacksmith wishing to learn as much as possible from the demonstrations, is you can't be nine



The 1984 ABANA Conference symbol.

places at one time. I had to split myself among the nine demonstrations in process and missed some because I got hung up watching one demonstrator.

One thing that I noted, and I hope the editor of *Anvil's Ring* and the planners for the 1986 Conference also noted it, was the area that had the heaviest attendance covered basic forging techniques. Unless you were there first thing, you could hardly get close enough to view the demonstrator. In my opinion, that means many of the ABANA members feel they need more basic training on forging techniques and therefore, both the *Anvil's Ring* and future conferences should devote more space to this subject. I'm not being critical of the conference, just making an observation.

As you walked out to the demonstration area, you first came to the flea market for used blacksmith tools. There were quite a number of used power hammers, leg vices, and other tools for sale. I picked up a new firepot for my forge, but failed to write down the fellow's name that was having them made up, so I can't tell you where you can get one like it. If

the seller will drop me a line, I'll let our readers know about him.

Speaking of hammers, there was an all-metal oliver at one of the demonstration sites. I took a number of photos of it and tried to find the owner. It would make an excellent story. If the owner of the footpowered hammer at the ABANA Conference will drop me a line, I would like to get in touch with him. This was an excellent hammer and worked smooth as silk. It also takes up about as much floor space as a 25-pound Little Giant, another plus. I didn't have a tape measure with me to take any dimensions, but will have photos in a future issue. However, an interview of the owner would be most helpful.

After you got past the used tools, the first demonstration area was a large, covered area where the Whitaker Master Class was in progress. This was available only to experienced smiths who had submitted a resume and slides of their work by May 1. From this group two teams of twelve were selected to work on a gate for installation at the National Ornamental Metal Museum in Memphis, Tennessee. Each team was to work for half of the conference. I was not sure whether there were actually two teams and what their work schedule was, but they did do a fine job on the finished gate. Francis



Francis Whitaker in light color shirt supervises work on the gate.

Whitaker was there the full time supervising the various operations and specifying rework as necessary. If Francis wasn't happy with the piece, it didn't go into the gate.

I stopped and checked on their progress from time to time, and then photographed the gate when it was completed. A picture of the finished gate is included with this story. More detailed photographs of the gate will be provided in a future issue of *Blacksmith's Gazette*.



Daryl Nelson and Terry Carson with an assistant (I didn't get his name) are shown with the gate they made in slightly over two hours.

I spent too much time watching Joe Volz on that first day and missed several other demonstrations that I had wanted to see. Joe is quite a showman and talks all of the time. At least he tells you what he is doing and why, with a lot of B.S. thrown in, but he is interesting to watch anyway. Joe was supposed to be relieved by Jud Nelson. Jud didn't show that afternoon until late because his glasses broke and he had to go have them repaired. As a result, Joe recruited Jacob Lischer, a German blacksmith, to help him out. We got a nice demonstration on forging a pair of tongs. Even more interesting, Alfred Haberman stopped by and was asked to strike. Freddie and Jacob disagreed on the signals for a striker, and it became quite interesting watching two people who spoke different languages discussing how to strike. Finally, they both gave up and left.

I watched Hans Felsberg of Canada do some basic forging and was very impressed with his work. I was most impressed with his copper work. He



Alfred Haberman (right) and Jacob Lischer discuss signals for striking. With the language difference, they never did agree.



Jud Nelson finishes a forge weld on a basket handle poker.



Jacob Lischer is showing how to forge a pair of common tongs.

was doing a copper stamping of the ABANA Conference '84 symbol. Hans explained that first you must have a flat steel table or base. On this you put a layer of leather, then a layer of lead, and, finally, the copper sheet. Everything is then clamped down tight on the edges. The leather helps fill in any low places in the lead and steel plates. He used a large selection of chisels, with blunt edges, to do the stamping.

I wish I could remember the names of everyone that I watched, but my notes don't completely refresh my memory. I was most impressed with Paul Zimmerman of Pliezshausen, West Germany when watching him doing grill work. Paul did his shaping with a torch. It gave him greater control over the bends and curves by using selective heating with a torch. He forged the piece for the grill to get the shape (cross section) and then went to the vice and torch for final forming to fit into the grill. A nice technique that works very well.

I watched Daryl Meier welding Damascus steel with a large air hammer. The first time I saw Daryl doing this operation was four years ago on a 25-pound Little Giant. He's graduated to a large air hammer. The welding goes much better because so much heat is put back into the steel by the air hammer blows.

Daryl Nelson and Terry Carson of Fire Mountain Forge, Eatonville, Washington demonstrated the making of a garden gate in three hours. Actually, they had a helper, whose name I didn't get, that enabled them to complete the gate in slightly over two hours. With such production, a shop can produce a marketable product at a reasonable price and still make good



Alfred Haberman stands beside the results of his forging efforts on Saturday night.



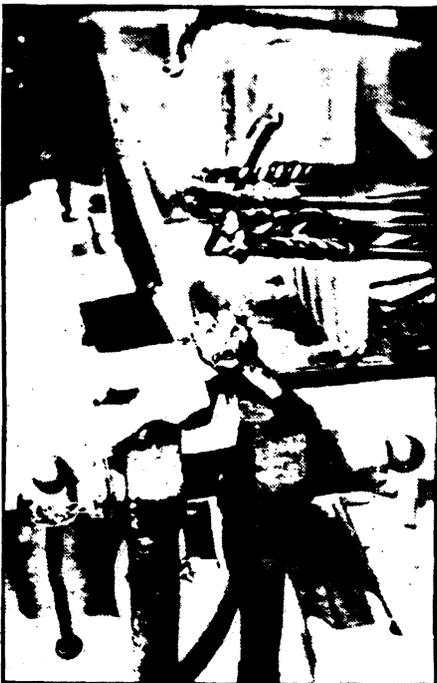
A piece of work done at one of the forging stations during the conference.



Completed gate from the Whitaker Master Class.



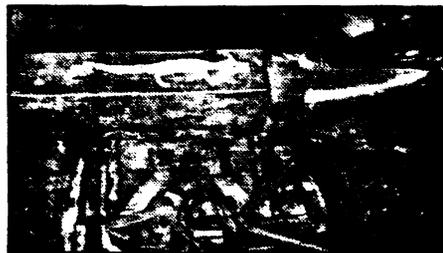
Another piece of artwork done during the demonstrations.



Animal head done by Daryl Nelson of Fire Mountain Forge.

money on it. Daryl and Terry also demonstrated their animal head forging techniques. As Daryl said, before he started doing animal heads, he never looked so close at animals. Now, he gathers photos and studies them real close. Their work is very good.

Although not a scheduled demonstrator, Alfred Haberman agreed to demonstrate and make up a piece of artwork Saturday night. Freddie asked for three forges and three helpers. He finally had to have a fourth helper to keep things moving. Freddie still had to stand around and wait for the steel to get hot enough to forge, even with three forges going full blast and four pieces in work. The pieces were heavy, about 3/4-inch thick by 6 or so inches wide, and



Alligator made from a railroad spike by Joe Volz.

probably 2' long. It made the forge tenders work to heft such heavy pieces with two pair of tongs. Basically, Freddie forged on one edge and allowed the piece to warp into a circle with a slight twist so that the ends did not meet. When attached to a framework, it made a nice sculpture.

Before Freddie's demonstration on Saturday night, the general ABANA meeting was held and this was followed by a fund raiser auction in which a number of donated pieces were auctioned to raise funds for the Yellin Foundation and the Memphis Iron Museum. Over \$3,000 was cleared at this auction. One interesting item auctioned was donated by Terry Clark of Great Britain. Terry donated the clothes off of his back. First his shirt. Then his shoes and socks, and finally, his pants. They were all given back after Terry ran about in his underpants for awhile. Francis Whitaker also took off several layers of ABANA-tee-shirts to show some of the locations at which he had participated.

Emmert Studebaker of Tipp City,



Joe Volz demonstrating at the conference.

Ohio was presented the Alex Bealer Award for his many years of work furthering the cause of blacksmithing. This award was a froe made by Jud Nelson and engraved by Bruce LePage. Jud Nelson was given a certificate honoring his years of service to ABANA.

In addition to all of the demonstrations, I was able to meet several people that I had heard about, but never met. I've corresponded with Joe Humble a number of times and was pleased to finally meet him. Also, Jack Andrews, who wrote *The Edge of the Anvil* and is currently involved with the Yellin Museum, was interesting to talk with. Finally, I met Joe Hansberry, of Murfreesboro, Tennessee, and was shown some of his work. We had a brief story about Joe some time back.

I would be remiss if I failed to mention the dealers that were there to provide supplies to the blacksmiths. Norman Larson was there with his books. I've arranged to get a new list of books that Norman has available as

soon as the new list is compiled. (Norman's address can be found in our Classified Ads.)

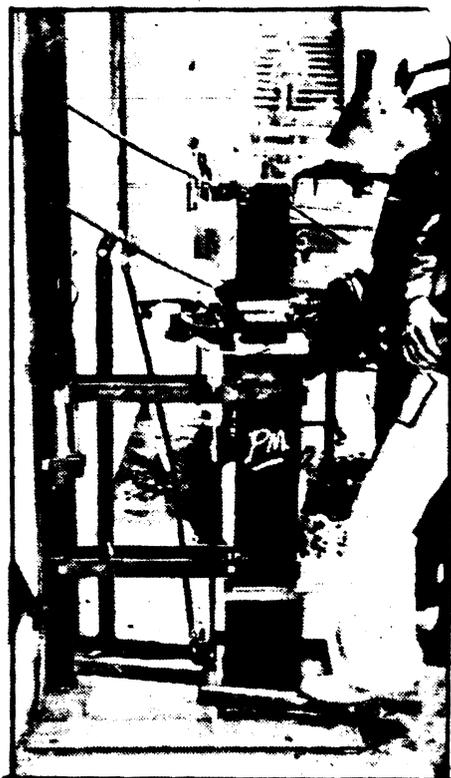
Barry Pattern & Foundry Co., Inc. of 3333 - 35th Ave. North, Birmingham, AL 35207 had a representative there showing Italia wrought iron forgings. They have a catalog of these products available for \$5.00. I felt this was an inexpensive alternate way to provide a customer with a reasonable quality gate, grill, etc. if they are unable to afford a totally hand forged unit.

Centaur Forge, Inc. of 117 North Spring Street, Burlington, Wisconsin was there with a large selection of blacksmithing tools. They also have a very fine catalog, which I believe is free for the asking.

All in all, it was a fine conference and I hope this story and the accompanying photographs will help the people who were unable to attend and will stimulate fond memories for those that did.



Nol Putnam splitting a rod.



This Oliver made completely of steel was a beautiful machine that we hope to have more information on in a future issue.



Carol demonstrates the making of a horseshoe while giving Joe Volz a break.

1984 ABANA Conference

It was a good conference, I had a good time and picked up some more blacksmithing tips. The 1986 conference (I believe) is in Santa Fe.



Paul Zimmerman demonstrating the use of a torch to form parts for a window grill.



Hans Felsberg doing copper stamping.



From my notes I can't identify this smith, but he was demonstrating some production techniques.

HOT SPLITTING

on the Hardy

Hot Splitting on the Hardy

By Fred Holder
Photography by Steve Roecker

Most smiths who work alone experience problems when it comes to splitting the end of a bar. Even with a hold down such as that described in our January 1981 issue, it is often difficult at best to split with a hot chisel. When you split on the hardy, you're working blind. In the beginning I had problems splitting on the hardy for that reason. It seemed like the split always shifted to one side



Begin the splitting operation by putting a center punch mark at the back end of the split.



Note the location of the center punch mark. It is better to use a large center punch to make the mark.

I do mine a little different. Come to the demonstration on Nov. 3rd and I'll show ya.

or the other at the bottom (or back) of the split.

Since a lot of the work I do requires splitting, I had to come up with some solution. My first idea was to drill a reference hole at the bottom of the split and then, setting the hole on the point of the hardy, split from the bottom toward the end. I did this for a while and had very good luck with blind splitting. The hole must either be punched hot or drilled. If you drill the hole, you must cool the iron — a waste of energy and time.

I realized that I was using the hole only as a reference to locate the corner of the hardy. A center punch mark should do the same thing. I was right! Since that time, I've made a large number of blind splits on the hardy using a center punch mark as a guide without ruining a single split.

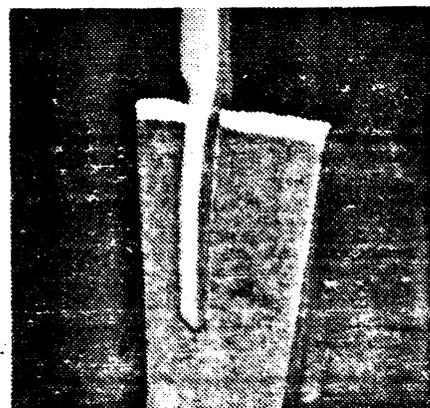
If you're experiencing problems with your blind splits on the hardy, follow the sequence of steps shown in the photographs and your problems should go away. Good luck!



Use the center punch mark to align the bottom of the split on the corner of the hardy chisel.



Hammer the iron down onto the hardy until the chisel edge just starts to break through the iron.



Finish the split by driving the iron straight down on the hardy.



The finished split should look like this and with care will be even on both legs of the split. The split area may now be formed into a number of different items such as a fork.

SHOP TIPS: (This is the first of what I hope will be a regular column of shop tips from local smiths and other ABANA group newsletters. If you have some shop tips you would like to pass on, please send them to me.)

- I will start with one of my own. I use a garbage can for my forge hood. By putting the vent pipe at the top of the back, and pushing down the former bottom to form a bowl, I can fill this area with water. This seems to keep the hood and vent pipe cooler as well as putting some moisture in the air. I am still experimenting with this.

- The remaining items are from the newsletter of the Blacksmith's Guild of the Potomac (4/84 issue):

-- Use worn concrete saw blades, discarded by contractors, to dress grinding wheels. Snap off teeth which retain some of the diamond-bearing matrix with a hammer and vice, and hold the fragments to the grinding wheel with vise-grip pliers.

-- Keep an assortment of short pieces of different shapes of steel stock to be used in such jobs as sizing tong bits and jaws, and as gauge blocks when forging one shape into another. For example, a short piece of 1/4"x3/4" bar lying on or near the anvil will serve as a comparison in forging a 1/2" square into a rectangle of similar dimensions.

-- Forge or twist the blade 45° to the handle for a hot chisel which will be used for long splits or scored lines. This will keep your hand out of your line of vision and away from the heat of the stock.

-- Good files will be ruined quickly if they are used on hot metal to remove burrs and file out cracks. Old, worn files are almost as effective for working the hot, softened metal during forging.

-- Fire bricks (but not ordinary building bricks) arranged around the forge firepot will give you flexibility in suiting the size and depth of your fire to changing needs. They will be especially helpful in giving you a deep fire for welding or a smaller, more efficient one for small work.

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SOFA SOUNDS
Ken Scharabok, Editor
1135 Spinning Road
Dayton, OH 45432

