From the Editor

After a transcontinental move, the editors' office of the Anvil's Ring has emerged, alive and well, just north of the San Francisco Bay. I would like to thank retiring editor Pete Minier, not only for his years of excellent service as editor, but also for his generous help and cooperation throughout this period of transition. We have appreciated the professional manner in which he has assisted us. Stan Strickland and Bill Callaway have been most supportive with their assistance in facilitating the move and establishing the new office. Thanks, also to Brian Flax (who served as the editor of The Hammer) for his generous donation of new art equipment to the Anvil's Ring office.

There is an important change we would like to bring to your attention. In the past the seasonal date appearing on the cover was that of the season in which an issue was begun and compiled, rather than the season in which it was mailed and received. This generated a bit of confusion and alas, some of you even took umbrage to this apparent tardiness. So, beginning with this issue the seasonal date appearing on the cover will be that of the season of its mailing. For example, the issue which comes out in the spring of the year will be called the "Spring" issue, rather than "Winter" as in the past (seems logical enough, right?). If all this is still confusing compare the volume and number of your last issue (Vol. 13, No. 3) to this issue (Vol. 13, No. 4). As you can see, you did not miss an issue, nor did the Anvil's Ring skip an issue; so please don't write Ruth Cook complaining that you didn't receive your "Winter" issue.

ABANA is composed of people with diverse interest, ideas and needs. We all have blacksmithing in common; that's the easy part. But beyond this bond, there naturally exist our divergent opinions and philosophies about blacksmithing, and certainly about art. The Anvil's Ring is a reflection of this diversity. It will be my job to try to present a variety of the best material available, serving the beginner as well as the accomplished.

The majority of the material you see in the pages of this journal is composed of what you, the membership contribute. Needless to say, all contributions are welcome! In the words of a local newscaster, "If you don't like the news, go out and make some of your own" — and when you do, please send it in to the Anvil's Ring!

Robert Owings, editor

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Dragon Pups

The question remains... which came first, the dragon or the egg?

A belated reply to John Dittmeier (Snuff the Magic Dragon, The Anvil's Ring, Vol. 7 No. 3). Maybe we've stopped making superfluous iron dragons, but the matter is out of our hands. The iron dragons, at least those in Nova Scotia, have learned to reproduce themselves! Probably has something to do with the blue lobsters and the clean air.

MICHAEL SPENCER
Port Medway, Nova Scotia
# Anvil's Ring

**Spring 1986**  
**Vol. 13, No. 4**

## FEATURES

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pride of Mexico: The Angel Brothers, Coppersmiths</td>
<td>4</td>
</tr>
<tr>
<td>by Bill Callaway A visit to their shop in Santa Clara del Cobra.</td>
<td></td>
</tr>
<tr>
<td>Iron Aid Blacksmithing against hunger in Africa.</td>
<td>6</td>
</tr>
<tr>
<td>Flagstaff . . . looking ahead Demonstrator preview and conference information.</td>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elissa: Part II A Wrought Iron Barque</td>
<td>12</td>
</tr>
<tr>
<td>by Joe Pehoski, Doug Mclean and George Holliday Restoration begins . . . the second in a series.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blacksmithing in Mississippi</td>
<td>20</td>
</tr>
<tr>
<td>by Bob Heath, with contributions by Jim Puckett</td>
<td></td>
</tr>
</tbody>
</table>

## DEPARTMENTS

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Mail</td>
<td>2</td>
</tr>
<tr>
<td>Historical Footnotes</td>
<td>17</td>
</tr>
</tbody>
</table>

## Focus

Highlighting two projects by Eric Moebius

## Showcase

Photo-gallery of recent work.

## International Communiqué

First World Congress of Artist-Blacksmiths in Aachen Germany, BABA Conference review, and more.

## Shop Talk

by Russ Swider  
A question and answer column.

## Regional Report

Including Western States Conference Review by Corky Storer.

## Foundations . . .

A Resource for Beginners

by Bud Oggier

## Tips and Techniques

Tips and Techniques

## President’s Message

President's Message

## Calendar

Calendar

## Classified

Classified

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*Cover: Derived from a French postage stamp.*

The Anvil's Ring is the official publication of the Artist-Blacksmiths' Association of North America (ABANA), and is mailed to members on a quarterly basis in Spring, Summer, Fall and Winter. Membership is available to any individual or organization interested in the art of blacksmithing. Matters related only to membership and subscription, including dues, change of address and subscription complaints, should be addressed to Ruth Cook, ABANA executive secretary, P.O. Box 303, Cedarburg, WI 53012. Include SASE. All editorially related materials, such as articles, book reviews, queries, tips, announcement of activities, ads, etc., should be addressed to the Anvil's Ring, 7 Fourth St., Suite 8, Petaluma, California 94952. All other inquiries and correspondence should be addressed to Stan Strickland, ABANA president, 1147 Danwell Court, Stone Mountain, Georgia 30083. Include SASE. The Anvil's Ring © 1986; the contents of this publication may not be reproduced either in whole or in part without the permission of the editor or the individual contributor. Contributors retain all copyright privileges; the material is copyrighted solely for their protection. The Anvil's Ring makes every effort to insure the accuracy of the information contained herein but assumes no liability in cases of error or changing conditions. Any business relations or other activities undertaken as a result of the information contained in the Anvil's Ring, or arising therefrom, are the responsibility of the parties involved and not of the Anvil's Ring or the Artist-Blacksmiths' Association of North America.
Competitive Exhibition

I must first thank everyone involved with ABANA and the Anvil’s Ring for all their help rendered me throughout the years in my efforts to come to grips with the Iron Maiden. As I write today I truly believe we have wrought a phenomenon unique in our society, and society is richer for it.

I have been an ABANA member for some time now and have read the Anvil’s Ring for years. I have looked forward to the day when I would have something worthwhile to submit. It’s been a decade, and when it gets right down to it, I feel an article regarding my work or how I do it would be of less value to the membership than a reassessment of the real challenge facing us as artist-smiths.

The Anvil’s Ring has gone through many changes over the years and so have we. We and our trade have grown and developed by leaps and bounds. Our will to pursue our goals has matured, our skills have flourished, our work is more vibrant than ever, and our businesses are even doing better. The renaissance of American metalsmithing is real. I do hope and believe it will someday be recognized as the truly great phenomenon it is. We have gotten the job done. We have saved blacksmithing from the scrap heap of lost skills, and we have set unprecedented standards of achievement. Our work is now second to none.

The vehicle which has made this phenomenon possible has been our own sincere intent coupled with the desire to respond to, communicate with, and teach each other via the annual forge, the various regional organizations, and ABANA. From the beginning, our enthusiasm was supported and nurtured by those retaining the secrets of the trade. Now reinforced by the talented and the dedicated, the skills are well in hand and once again flourishing.

ABANA has always attempted to assist us in gaining recognition. The national conferences and their exhibitions are open to the public. The Anvil’s Ring has provided a quality vehicle for communication. Alas, the spirit of the open hearth seldom carries through to our individual marketing plans. Here it seems the phenomenon ceases to exist. Nonetheless, our accomplishments must be evaluated and recognized by others than ourselves (the dealer, the curator, the collector, the critic, and the market) if they are to be valid. The challenge of the future is to gain recognition for our accomplishments.

Perhaps ABANA will accept the challenge and once again set the example. I propose that ABANA, with the assistance of the National Ornamental Metal Museum, sponsor a national, competitive exhibition outside of the conference setting during the “off year” to showcase our accomplishments. Such an exhibition, if promoted correctly, could very well generate enough national attention to get the message across to the market that here, indeed, is a creative phenomenon whose time has come.

An orchestrated symphony of acclaim carries a lot further than one of us blowing our horn alone. The fact is, if we are to pursue our creative ambitions, we must survive and we must sell. In order to sell, the market must know we exist, what it is we do, and it must recognize the value in what we do. People go to Mercedes Benz because they know the company makes a good car and they’re willing to pay an outrageous amount of money for one. Why should they come to one of us and pay a lot of money for our work? Who are we?

A national competition would present our work to the market, it would assure the market of value and quality, and it would reveal who’s doing what. Competition is absolutely necessary to the vitality of this renaissance. How often in history has the lack of competition led to a creatively corrupt hierarchy and the eventual demise of movement, growth, and change? Competition provides a motive other than profit. Profit may be the bottom line, but it does not necessarily provide creative motivation. Often as not, it stifles it. We have all made work “to sell” and know how disappointing that can be at times. On the other hand, we all have that special project we want to do. A competition provides the opportunity for such work to be seen and a legitimate introduction of the work to the dealer, critic, collector, client, market.

The challenge is before us and it is my sincere hope that we pursue this goal.
Francis Fights For Ferreous Fidelity

The Summer, 1985, of the Anvil's Ring carried a letter from me on the disappearance of 1020 hot-rolled steel. I have just finished a most difficult rasing, with all sorts of compound curves, which had to be finally fitted cold. My hands are sore from fighting the A36. Hot-rolled 1020 mild steel is still available, but not in the sizes most used by ornamental smiths; those are all made in A36. It is time for us to start a national campaign to get our good, 1020, hot-rolled back again.

Give us back decent 1020 hot-rolled bars, at least in the common sizes used in ornamental work, one inch and under. Give us back square bars that are square and rectangular bars that are rectangular, not on the diamond or hollow ground. Give us back hot-rolled bars that are straight, so we do not have to spend half our time trueing them up. In short, give us the quality we used to get; good straight 1020 hot-rolled mild steel!

FRANCIS WHITAKER
Aspen, Colorado

Respectable Demos

When asked for my opinion on what differentiates a good demonstration from a bad one, the first thing that comes to mind is the demonstrator. Demonstrating is like selling a product. You are trying to sell something to someone else. In this case, you are trying to sell yourself to your comrades, in trade for their attention and respect, and hopefully a little monetary reward, also. The problem with a lot of the blacksmith demonstrators, is that they all know the medium, but they don't know how to sell it. So, they do their particular thing and it stops there.

I think there should be a set of guidelines set forth for those individuals who wish to receive money for their demonstrating services. A few simple questions would be enough, such as: 1) What is your specialty or what do you do best? 2) What is the main objective of your demo? 3) How will your listeners benefit from listening to you? 4) What will your strategy be to carry out this demo? 5) How much do you want to be paid and do you need special tools or accommodations?

A good lecturer should be able to get the attention of his audience quickly and be able to hold it. (Though I admit that keeping it is the hard part.) There always seem to be many distractions; noisy physical ones are the worst. Then again, there can be problems with the crowd having a lack of motivation or wandering minds. One thing I think is important is to have something going on all the time. This can be either verbal or physical, but always keep your listeners either listening or thinking.

Make eye contact with people. Look at them, not through them. You're supposed to be there for their benefit, not just your own. You have to see into their eyes, see their faces and their expressions. Only in this way can you really know if the point you are making is getting across properly.

Use visual aids, such as chalk and chalk board, charts, example pieces, etc. Visual aids also help to break up that boring time that a piece of metal is heating in the fire.

Laughter is the easiest cure for boredom ever invented, so use it; it's easy. Don't make everything humorous, but do stimulate a little laughter. It helps secrete a natural cortisone which somehow helps us to sit on our bottoms for a longer period of time and not fall asleep.

Another good idea is to use only positive words and statements. Do not use words such as "maybe" or "hopefully" or "perhaps." Statements such as "I guess I'll . . . I'll try and . . .", only put doubt into the mind of the listener. If you have any doubt about what you are doing, don't do it as a demo.

MICHAEL W. CHISHAM
Petaluma, California

The Anvil's Ring welcomes letters to the editor. They should be addressed to: the Anvil's Ring, 7 Fourth St., Suite #8, Petaluma, CA 94952. (Letters are subject to editing.)

We mourn the untimely and tragic passing of Pete Minier, retiring editor of the Anvil's Ring, on Jan. 27, 1986. He served us well as editor and in his role as friend and comrade. He is missed.
The Angel Brothers Coppersmiths

by Bill Callaway

The first time I saw a coppersmith working was many years ago, long before I became interested in blacksmithing. While on vacation driving through Albuquerque, NM, I stopped at a Mexican arts & crafts festival. I was amazed at how these coppersmiths from Mexico worked huge chunks of copper out into beautiful vases, pitchers, bowls and other vessels. A fascinating demonstration it had been.

In looking for Conference demonstrators, this conversation with Frank returned from my memory banks repeatedly. Then, a year ago another blacksmith friend, C.E. (“Coop”) Cooper, came home to Phoenix from a trip deep into Mexico. He had visited Santa Clara del Cobra, where most of the coppersmiths in Mexico work.

I had long forgotten this incident, only to have my memory refreshed while talking with Frank Turley at a blacksmith meeting at Russ Swider's. Frank had seen these same coppersmiths and in the conversation we talked about what a Coop’s tales of incredible workings by these Mexican craftsmen prompted the two of us to visit the state of Michoacan to search for a coppersmith demonstrator for the '86 ABANA Conference.
We arrived in Santa Clara del Cobra ("of the Copper") about noon and went immediately to the Museo del Cobra ("Museum of the Copper") where we marveled at the incredible works on display. The curator met us and acquired an interpreter. After deciding whose work we liked at the Museum, we began an intensive tour of approximately 15 copper forging shops in the area. This tour came to an end when we entered the shop of Señor Abdon Punzo Angel and his brothers, Carlos and Benur.

The working conditions in most of these shops are not the most desirable. The shops are usually outdoors in barnyards and chickens, goats, cows, horses and hogs are everywhere, as are their droppings. Watch out where you step, Coop!

Abdon's shop was clean and neat compared to most, reflecting a pride in his work. His work is some of the most incredible forging I've seen.

Starting with a large chunk (billet sounds better, but it was a chunk) of copper weighing as much as 20 lbs., they heat, anneal and start hammering these large pieces into a flat, round shape which they begin forming almost immediately. They anneal when the metal work hardens, using a wood fire fed air by a very primitive pair of bellows. The air outlets from the bellows siamesed into a single tube. The air exhaust flowed into an adobe fire pit where the wood was stacked for the fire.

Coop and I stood watching six coppersmiths striking the single piece of copper, all coordinating in perfect rotation. They never showed confusion or lost their place in the process. The strikes were very fast and continued until the hot chunk of copper cooled and began to harden. When we expressed amazement at how well they all worked together they replied, "Ah that's nothing! Sometimes we do it with 10 men." I remember thinking something about why the power hammer was invented, but my fascination with what they were doing prevailed.

Female torso, front and back, 24" high.

Stake anvils are used for most of the forming. Abdon must have 30 different sizes and shapes of stake anvils, all hand made by him and his brothers in the shop. Their hammers are all hand formed and I must say quite impressive work. The children hanging around the shop start working the copper at an early age, as soon as they can use a hammer.

Abdon has received many awards for his work, including two presidential citations from the president of Mexico. Gold medals and award certificates cover the walls in his modest home from works he has entered in art exhibits throughout Mexico.

The Angel brothers' work is well defined and finely wrought. These craftsmen are surely some of the finest metal artists in the world.

Abdon forging copper vase on stake anvil.
Blacksmithing Against Hunger in Africa . . .

This "Tree of Life" was conceived by ABANA member Jack Lupton shortly after his return from studying in Aachen, Germany under Manfred Bredohl. Its purpose is to raise $65,000 to help in the fight against famine in Africa. Jack is donating his time and energies, with the aid and generosity of local businesses and the city of Millville, New Jersey.

The matrix of the tree is 18 feet tall, 14 feet wide, weighs ½ tons and is to be foliated by the addition of 2,600 copper leaves. The leaves will be donated at a cost of $25 each and can be purchased in any amount by individuals or organizations. Donors may have their name of choice etched on each leaf.

The Millville City Commission has provided a prominent site for the tree and the Steering Committee has been careful to see that 100% of the donations will go to a responsible relief agency. If you are interested in further information write to the following address:

TREE OF LIFE
301 North Second Street
Millville, NJ 08332
An Invitation

I would like to personally invite each and every ABANA member to attend the 1986 ABANA Conference, August 13 through August 17.

The conference will be held in Flagstaff, Arizona, on the grounds of Northern Arizona University only 60 minutes from the Grand Canyon and many other area attractions. The elevation of Flagstaff is 7,500 feet. In August the daytime temperatures average 80°–85° with occasional showers and cool nights.

We have an outstanding line-up of demonstrators from the United States and abroad. Your conference publicity packet will be mailed to you soon, so make your plans early to vacation and attend the conference.

See ya’ there!

Bill Callaway
Conference Chairman

Blacksmiths from across North America and abroad will gather for this event. The program will consist of three and one-half days of demonstrations (including the making of wrought iron from ore), a major exhibit of ironwork, a professional business forum, film and slide shows, tool auctions, and much more.

For more information regarding the conference, contact:
Bill Callaway
Conference Chairman
3646 W. Lawrence Lane
Phoenix, Az. 85021

Rick Dunbar
Publicity Chairman
8621 E. Northland Dr.
Scottsdale, Az. 85251

the Anvil’s Ring/Spring 1986 7
HIGHLIGHTING the '86 Conference Demonstrators

This article is the first of a series that will present a short biography of each conference demonstrator. It is hoped that this introduction to the background and work of each artisan will help the ABANA members envision the outstanding demonstrations that these people will be offering us.

In order to include as many biographies as possible in the Anvil's Ring before next August, several smiths will be highlighted in each article.

RICK DUNBAR, Publicity Chairman

Barry Wheeler

Barry, a full-time artist-blacksmith in Akron, Ohio, has been the owner-operator of Evening Star Forge since 1971. A 4th generation smith, his expertise and attention to detail won him the 1982 “Wally Award,” an international award of blacksmithing presented by Richard Quinell of England. He has participated in several exhibitions, including the '82 ABANA Conference in Ripley, West Virginia. His major forging interests are animated and sculptural pieces, including miniatures, and he is noted for his “Bird Armour.” At the conference he plans to demonstrate “an animated door bell, techniques for making a matchbox gate and other items of the strange, peculiar and/or bizarre upon request.”

Claudia McCue

(For more information about Claudia, see the Anvil's Ring, Vol. 13, No. 3.)

A full-time artist-blacksmith, Claudia is a partner in the White Oak Forge, The Plains, VA. Although she has been smithing for only a few years, she has embarked on an intense study of the craft, having studied at Penland School with Frank Turley, Mark Bokencamp and presently with her partner, Nol Putnam.

Claudia has traveled widely studying art and architecture in the U.S., Algeria, Zaire and Belgium. Her work was exhibited at the '84 ABANA Conference and appears in private collections on both coasts. Her forte is finely wrought architectural work, combining elements of repousse and hot forging.
Toby Hickman

Toby, whose name and work are familiar to many of us, is a full-time artist-blacksmith maintaining a studio in Petaluma, California. He studied with Alex Weyger in 1976 and since has taught both private classes and workshops at the Evolution Art Institute. Toby has participated in exhibits and has considerable experience doing public demonstrations, including the 1980 ABANA Conference in Santa Cruz. A dedicated proponent of the craft, he has served as president of the California Blacksmith Association and of the Evolution Art Institute.

His major forging interests are architectural, using innovative production techniques to keep costs down while allowing time for creativity and workmanship. At the Conference he plans to demonstrate heavy air hammer work and to lead us toward effective use of limited production techniques.

William Fiorini

Bill is Associate Professor of Art, instructing in Jewelry and Iron, at the University of Wisconsin-La Crosse, and has held previous teaching positions.

Active in promoting the art of metalsmithing, he has held positions in many associated organizations. Bill is a past president and board member of ABANA. His list of shows and exhibitions over the past eighteen years is extensive, including conferences in England and West Germany.

At the conference, he plans to lecture and demonstrate pattern development for pattern welded steel related to decorative iron objects such as blades, gun barrels, gates and jewelry.

Václav Jaroš

Václav, whose work has appeared in previous issues of the Anvil's Ring, is a life-long resident of Prague, Czechoslovakia. A full-time professional artist-blacksmith, he completed his apprenticeship in Prague in 1961.

Václav is an ardent advocate of blacksmithing, having produced numerous articles and films to promote the art, not only in the Eastern Bloc, but throughout the Continent and in Britain and the United States.

Specializing in sculpture, along with traditional and architectural ironwork, his work has been displayed outside of Czechoslovakia, notably in the Oxford Gallery, England, and he has taught at conferences both in England and in the U.S.
Tom McLane

Tom, a full-time metalsmith in Tucson, Arizona, has specialized in knifemaking and pattern welding for the last five years. He has done numerous forging demonstrations, and his work has been featured in several publications. He has exhibited in Los Angeles, Kansas City, Santa Fe and New York, as well as in Arizona.

His special interest in Japanese swordsmithing has led him to embark on an intense study of many phases of metalsmithing, including pattern welding, diffusion welding and allying of the Japanese materials shakudô, kuromidō, shibuichi and sentaku. He is also accomplished in the art of inlay, engraving, repoussé, niello and stone setting. Further study has led him to an interest in primitive iron and steel production and, at the conference, he plans to produce sponge iron from magnetite ore by the direct reduction process.

Ron Smith

Ron is a full-time artist-blacksmith employed at Design Lighting Products in Scottsdale, Arizona. After thirty years as a welder, he came to smithing to express and develop his creativity. As his “bread and butter” trade, he produces architectural lighting pieces and for relaxation creates pattern welded knives, tomahawks, jewelry and his speciality “Royalty Heads” (gargoyle figures).

At the conference, he plans to create some of these figures, as well as the knives and tomahawks he excels in.

Jeff Funk

Jeff is a full-time artist-blacksmith, operating River Bend Forge in Big Fork, Montana since 1977. His work is architectural and/or sculptural and is done on commission.

Working extensively with metal for the last 16 years, exposure to formal art training has focused his interests toward producing purely forged, sculptural objects. He feels that gesture and energy are essential to the finished product and he therefore strives to integrate body rhythm, forging and sound into both process and finished piece.

At the conference, he plans to demonstrate designs applied by hammer welding used in making dishes and sculptural elements and forging musical sound objects.

*Five Iron Bonds,* 26" x 18" x 3", forged steel and raised brass. (photo by J.D. Gross)
**Exhibition Guidelines**

- The non-juried exhibition is open to all ABANA members whether they attend the conference or not.
- Any work that incorporates ferrous or non-ferrous metals made since December, 1984 will be accepted.
- Mail-in entries are due August 1, 1986. All mail-ins are to be sent and returned at the artist's expense.
- Hand-delivered entries will be accepted on registration day, Wednesday, August 13, 1986, from 9 a.m. to 9 p.m.
- Artists should plan to supply a business card to keep in the gallery for commission opportunities.
- There will be no commission fee taken by ABANA on work sold.
- For entry forms or other inquiries, write to:

  Bob Rummage Exhibition Director  
  Phoenix Forge  
  303 E. Madison  
  Phoenix, AZ 85004

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**Conference T-Shirts**

Order early! Be the first on your block to have a Conference T-shirt, with the 1986 Flagstaff Conference logo on the front. Cost per shirt is $10.00 and includes shipping. Colors choices are grey, green, tan or blue. Sizes available are small, medium, large, and extra-large. A Conference logo patch is also available. To order the above items, write:

Conference T-Shirts  
P.O. Box 1203  
Bagdad, AZ 86321

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**The Business of Blacksmithing**

An important business seminar is being organized by Susan Showalter for this conference. The panel, consisting of Leigh Morrell, Albert Paley, Susan Showalter, David Wolofrd and others, will discuss numerous aspects of doing business in our field. There will be time for a question and answer session. Some of the topics covered will be: product development, bidding, labor, partnerships, wholesale, retail, and work as related to specific markets.

"In blacksmithing the money is not only made in the workshop, it is also made in the office and it is more than fifty percent made in the office. If a blacksmith understands this it can really help him."

Manfred Bredohl

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**Anvil Race**

As a special side attraction to this Conference, the staff of the Anvil's Ring will be sponsoring at the Grand Canyon the first "Anvil's Race to the Rim," where smith and anvil, working as a team, race against time and the elements to reach the Canyon rim, towering a mile above the Canyon floor.

**Official Race Rules:**

1. All anvils must weigh in at a 200 lb. minimum.
2. All anvils must be disguised as mules to meet with Park regulations.
3. Each smith must be capable of signing his or her own name on the official race register and must be distinguishable from real mules (at least in appearance).
4. Creative cheating and healthy bribery may be tolerated, but the use of explosive materials is prohibited due to environmental concerns.

**Grand Prize:**

The winner will take home the coveted Clinker-de-Canyon Cup, a cash prize of approximately $17 and will be featured in an entire chapter in the up-coming book: Mules, Myths and Madmen of the Grand Canyon. (Victory lap around the Canyon is optional.)
ELISSA: A WROUGHT IRON

Part II: Restoration Begins

In 1980 not much more than the hull and deck beams of the "Elissa" sat at a Galveston dock ready for the task of bringing her, as close as possible, to her original 1877 condition. This was to be done without benefit of the original plans which were destroyed in a bombing raid at the Aberdeen shipyards during World War II. A great deal of research and planning had to be accomplished by the restoration staff of historians and engineers before actual reconstruction could begin. Design and engineering decisions needed to be done not only on paper, but on board the ship as well, so that each element would be compatible with the time-altered structure of the ship.

It became evident early in the restoration process that the large shipyards and manufacturing companies were not sympathetic to the significance of the project, nor were they familiar with the quality and skill that the job demanded. Contractors bid on the work using the same criteria that they would employ while working on an oil supply boat. A problem of communication evolved as to what was expected for the restoration versus what the union establishments were able and willing to provide at a reasonable rate. It was evident that using the traditional outside manufacturing sources would become, for the most part, financially as well as technically impossible.

It was apparent that the restoration required skilled individual craftsmen who would work on the project and train a support crew of workers in their respective fields. In October, 1980, representatives of the "Elissa" Project approached Joe

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Partial List of Specifications for Ironwork

- Welding must be of good quality, sound & thoroughly fused. Contractor to submit welding procedure &/or qualification tests . . . required by "Lloyd’s" representative for his approval. Partial or 100% mag. partial inspection of welds to be made . . . defective welds to be corrected by contractor, as directed by "Lloyd’s" surveyor.
- Contractor to fabricate one chainplate for approval by owner. This shall become the standard for acceptance of all chainplates.
- All welds shall be ground smooth before inspection.
- Blast and shop coat approved work with inorganic zinc silicate, "interzinc" QHA028/QHA027 . . .
- Steel to be A.S.T.M. Grade A-36 furnished by contractor. Furnish mill sheets to owner . . . ultrasonic tested for lamination by contractor for owners' approval.
- Chainplate bar & eye to be cut and forged from one piece of stock to dimensions shown.
- All dimensions to be held to ± 1/8" . . . except where noted.
ON BARQUE

by: Joe Pehoski
Doug McLean
George Holliday

Chainplates installed.

Pehoski at his shop in central Texas as part of a feasibility study to see if blacksmithing could be incorporated into the restoration project. In response to that meeting it was decided to award Joe the contract to fabricate 72 chainplates. In addition to this contract Joe also agreed to help set up a basic blacksmith shop at the restoration site and teach Doug McLean the fundamental skills in smithing necessary to forge in-house fittings at the site. This was the beginning of a strong friendship and working relationship that has been productive to this day.

The three following things had to be kept in mind for the restoration of "Elissa": cost, authenticity and technique.

Cost: The restoration had to be done within a budget. Considerations dealing with authenticity had to give way at times to the practicality of getting the job done. For example, mild steel was used throughout the restoration because of its availability and its ease of use when dealing with contemporary
techniques such as machining and welding.

Authenticity: The restored “Elissa” was to be as close to the original ship as possible. Although electric welding was used, a great deal of research was done to guarantee that the flow of lines of any reproduced fitting was in keeping with the lines of the original forged fittings. To find out the techniques used in making the original fittings we took original fittings or parts of fittings from what survived on “Elissa” or what could be found in collections. These fittings were then cleaned and treated with muriatic acid to bring out the grain of the wrought iron. Using this technique, we were able to discern whether a fitting had been punched, welded or split. With this knowledge we could then design a fitting for the “Elissa” with the proper lines at junctions and bends. Often, we would build up welds far beyond their structural requirements so that the proportions would be correct after grinding.

Technique: Originally, maritime blacksmithing on this scale was done in shops that were especially equipped to handle the work. McDonough Ironworks in Galveston still had an original, though dismantled, 20 ton steam hammer and the tools that were used in maritime blacksmithing. Through the kind assistance of McDonough Ironworks’ shop foreman and former maritime blacksmith, David Henry (note: David Henry passed away in Sept. 1984, shortly after “Elissa” was restored), we were shown how specialized this type of blacksmithing was before the company became modernized and eventually retired its blacksmith operations. Our greatest single challenge was in evolving procedures which successfully combined traditional and modern techniques that would produce quality restoration fittings within a defined budget and that would hold up under the rigours of a working ship.

The first project to develop these techniques and test their feasibility was in the production of the chainplates. Chainplates are used as anchoring devices for the lower mast shrouds and are fastened to the bulwarks by 1” x 6” rivets. The shrouds are 1” cable rigging used to keep the mast from shifting from side to side, sort of like guy wires. Each chainplate must be made to a specific length and properly aligned angle to endure the tremendous force subjected to it.

The specifications for the chainplates called for the bar and eye to be forged from one piece and the bar to be arc welded to a
palm plate. Rather than starting with material 3½" × 1¼" and forging it to the needed proportions, it was decided to pattern-cut blanks from 1¼" plate. The blanks were then forged to the finished dimensions under a 50 lb. Little Giant powerhammer. The finished bar tapered from 1¼" round below the eye to 1½" round at the base. In order to get a 1½" dimension from the 1¼" plate the blanks were flame cut 1½" wide at the base to give an extra ½" material. This worked out well and the finished forgings came within ½" tolerances in all dimensions.

After the bars were forged, they were sent out to have the 1¼" eyes drilled. The bars were then returned to the forge for chamfering on the eyes. The palm plates, ½" × 7" × 7", were then chamfered and sent out to be bent out of flat by ½". This warpage was pulled out when the bar was welded to the palm, making the finished palm lay flat and true. Welding was built up and ground down to create the same proportions that the original forge welded chainplates had.

The final adjustments for the angles of the bars leaning out from the palms were done using a large (250,000 BTU) propane heating tip, a jig and come-a-long. The propane heating tips were often used as a heating source during the "Elissa" project. Not only is it far more economical than acetylene, but it gives a more gentle heat and reduces the chance of burning the surface of the iron.

The procedures worked well. The chainplates fell within the ½"–½½" and strength tolerances that the specifications required, were within budget, were delivered on time, and were identical to the original chainplates in other than material and technique. Consequently, much of the continuing work on "Elissa" followed a similar pattern of fabrication techniques. When a fitting was too large or too complex to forge from one piece, it was flame cut and then forged either by hand or under the 50 lb. Little Giant. Components were then arc welded together.

The lower yard truss bow
assemblies were the largest fittings we produced using this fabrication technique. The truss bows (pictures #5 & #6, page 6, A.R., Fall '85) are 350 lb. fittings that both hold and allow movement of the lower yard on the fore and main masts. The strength of the truss bow is critical as it must support the weight of the 63 ft. long, 2,000 lb. lower yard, the weight of the sails and 8-10 men as they work the sails. Originally a truss bow used on a ship the size of "Elissa" would have been forged from one piece of iron, 5½" x 2½" x approx. 4' long. A 3" hole was hot punched through the width and the arms were drawn out. After considering our facilities and the precise tolerance requirements, we decided a different approach was needed.

The basic forms for the arms of the truss bow were flame cut from 2½" plate. These pieces were further refined by chamfering the edges with a cutting torch. This rough shape was then forged to its final dimensions. The arms were arc welded to a 5½" length of 5" round steel with a 3.062" hole bored through its length. The welds were 100% penetration, built up and ground to give the same configurations as the original punched holes. It should be noted that the welds had to be of X-ray quality and represented 80 lb. of welding rods.

At this point it may be asked, had a large power hammer been available would it have been possible to forge more fittings from one piece? In some cases the answer would be yes. However, it must be noted that many of the original fittings were forge welded together from smaller forgings.

Also, when large power hammers were used originally they were outfitted with special dies; these costs would have been prohibitive for the forging of so few fittings, as in our case.

A point of pride for us was how much we were able to do using so little compared to the modern industry we were competing with. Our bids were consistently below our competitors', the quality of our work was higher and we were reliable. From a questionable position at the beginning of the restoration, the concept of using blacksmithing and small shop craftsmen became the cornerstone of "Elissa's" rebirth.

(The next issue will discuss the basic forge set-up at the ship site and its contributions.)
Bell Clapper — Ring Bolt

An update on Donald Streeter’s photos showing a hole hot punched near the end of a 7” x 7” anchor shank (the Anvil’s Ring, Spring ’81) and my note about Nova Scotia smiths splitting and lap welding to make a similar eye in 1” round (the Anvil’s Ring, Summer ’81). The ring bolt on the bell clapper from the old Graves Light shows another solution. The hole is punched (or slot punched) and a reenforcing piece, with the grain the “strong” way is welded across the weaker end grain of the wrought iron. Prof. Samuel Allen of MIT called my attention to this. I’d never seen a weld like this, but Prof. Allen tells me it’s fairly common. From the collection of Prof. Harold Edgerton, MIT. (Photo by M. Spencer, with permission from Prof. Edgerton’s office).

MICHAEL SPENCER
Port Medway, Nova Scotia

McConnell Blacksmith Shop Exhibit

The Lester McConnell fourth generation blacksmith shop is housed in the Board of Governors Building in the Agriculture Hall of Fame. The restored shop is 24’ x 50’ with two 12’ x 50’ side extensions making more than 2,500 square feet of space for the antique tools and equipment. Appraised at $150,000, this collection tells the history of blacksmithing in the United States. The collection was sought after by the Smithsonian Museum and the Kansas Historical Museum.

The interior of the shop is as similar to the one McConnell left as possible. All the tools and equipment have been placed in the positions shown in old photographs of the original shop. The main feature of the display, however, is one of the world’s largest collection of blacksmith anvils. There are more than 300 anvils collected by McConnell from blacksmiths all over the farm belt states. The anvils were numbered as he acquired them and often have the names of the towns welded on their sides.

The exhibit should be of interest to ABANA members as well as anyone interested in blacksmithing. Where can you view more than 300 antique anvils under one roof? Only in Bonner Springs, Kansas!

AL BIRCHER
Whispering Pines, North Carolina
Last summer I completed a move to Milwaukee, Wisconsin, after spending two years renovating a 125 year old building there into a shop and living quarters. The brick building had been an ironworks at the turn of the century in the heart of industrial old Milwaukee. I now have 3,500 sq. ft. to fill up with machinery and clutter!

I've had a steady flow of work coming in and I'd like to share with you two projects I did for an estate north of Chicago. Having worked for this client many times over the last six years, I was able to design and create in the most enjoyable and profitable way. I knew exactly what designs would satisfy the client's desire for individuality and traditional forms.

Grape Arbor Pot Rack

This project involved the combination of various forging techniques on both steel and copper. The client had a large set of heavy copper pots and skillets they wanted hung over an island counter in a light-filled kitchen. Since I was apprehensive about the black look of forged steel in these surroundings, the decision was made to use a pierced, repoussé copper band and forged copper grapes. The branches and leaves were forged steel that was emeredied on all surfaces to bring out the silver highlights. A number of problems arose after doing the drawings and receiving approval. First, we lacked a "copper grape supply store" in our area, so I began forging a few hundred copper balls with 3/8" stems. Four different sized spring tools were made for the balls. I make spring tools with a collar and set screw to attach them to the bottom die of my 50 lb. hammer. The grapes had to be lead soldered to a copper stem; I then heavy-plated the whole bunch with copper. This covered the lead solder and prepared the surface for patina.

The grape bunches were oxidized to a matte black finish, then steel-wooled to bring out the copper highlights. The recesses maintained a matte look which simulated the natural yeast on grape skins.

My next challenge was the oval copper band. The rolling leaf motif was cut out with 50 different chisels and hammered on lead blocks from behind for a raised look. The band was rimmed with two half-oval sections which I forged in a spring tool; the ovals were then countersunk riveted to the band. The shaping of the oval was done with a sheet metal roller. Extreme caution was needed to not distort or kink the band.

The bark-like texture of the branches was achieved with spring tools; the branches were then attached to the copper band. The leaves were sawn out of 16 ga. cold rolled steel and the tiny saw marks removed without filing. This was done by a two-minute dip in a 50/50 nitric solution, which removes all the high points. Another challenge was to apply the leaf stems to the branches. The vine wrappings served as collars, and were applied with a torch and tongs, a process both frustrating and time consuming. The vines started out too long to wrap because of limited space, so I rolled them up like tape and slowly fed them through the holes. The treatment on the entire surface reflects a clean coke fire,
extensive wire brushing, and many hours of emery work. Finally, the whole piece was heated with a propane torch and coated with Johnson's paste wax.

**Three Oaks Manor Fireplace Screen**

The screen, which is 36" x 35", was designed to incorporate the client's family crest. My decision to use bronze plaques was to introduce color to a fireplace done in all gray, white, and black. A wax model was carved of the three oak trees and books, and sandcast in a red bronze. I designed the branches to create a framework for viewing the fire and to tie in with the crests. The leaves were welded to the stems and the stems forged welded to the branches. The framework was then emeried to a very silvery finish to match the marble mantel. Made of stainless, the wirecloth was painted flat black and is almost indestructible. The gauge of the wire and the mesh size create a pattern which almost disappears in front of the fire.

These two projects have taught me once again to use reverse thinking, picture the job completed and work backwards on every part. It's an excellent exercise for the mind and your mistakes will be few and far between. After 15 years of blacksmithing I still remember Bill Gichner telling me, "there has never been a blacksmith who went out of business for charging too much."

*(photos by John T. O'Brien)*

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*the Anvil's Ring/Spring 1986* 19
Blacksmithing

One journeyman and one apprentice

by Bob Johnson

with contributions by Al Jackson

Blacksmithing in Mississippi is closely allied with the whole history of the state. There are two basic historical periods. The first goes back to the earliest French period when the first settlers moved into the state. The archaeological digs at the French Ft. St. Peter revealed rose head nails and spikes used in the construction of the stockade. The old fort was located near the confluence of the Yazoo and Mississippi Rivers just above Vicksburg. Records secured in the French Archives in Paris show that there was a blacksmith among the soldiers in 1698.

Sixty miles below Natchez at Ft. Adams, a pre-revolutionary establishment, produced iron work representative of the Anglo-Saxon influence. The distinctive English tomahawks, forged on English anvils, are found near the remains of the fort. Many of these English styled hand axes are also found in Northern Mississippi, near Tupelo, evidence of English trade, local blacksmith shops or traders moving west out of Georgia.

Blacksmiths followed the early settlers into the Old Natchez District and into the Black Belt around Columbus. Much of the iron work from the French era, the later Spanish era and the English/American era can be found on the houses in Natchez today. A careful search of the water's edge on the Mississippi at “Natchez Under the Hill” will usually lead to the discovery of an old, blacksmith-made lock, spike or hinge. “Under the Hill” was one of the hangouts where the river men, like Mike Fink, drank and caroused. Jim Bowie, Davy Crockett, and Andrew Jackson were also familiar figures in Mississippi long before Disney embellished their deeds. This early period of blacksmithing seems to have ended just about the time Reconstruction ended in the state after the Civil War. The second period of the craft picks up at around the turn of the century and reflects the smithing that people still remember today.

The blacksmiths in Mississippi today seem to reflect the craft skills represented by both historical periods. We have young smiths working at the same skills today that older living blacksmiths have practiced since the depression days of FDR. The blacksmiths in Mississippi do not seem to have much ambition to go after modern art forms, but they all admire the craft skills of those smiths in other states who do that type of work. The main thing the Mississippi smiths seem to admire about the smiths who do modern art is their financial success.

The only two blacksmith shops that exemplify the early period are located at Natchez and Greenwood. At the old Inn, Mt. Locust, on the Natchez Trace, there is an old, two-chambered bellows and forge set up. The Inn has been restored to the early frontier days of 1800 when Aaron Burr and highwayman John Murrell roamed the region. The Inn was recently used as one of the settings for on-location shooting of the T.V. series, “North and South.” Square nails and simple items were made there a few years ago, but the forge has been idle for the last three or four years. At Greenwood there is the recreated plantation of Florwood that has an operating blacksmith shop. The circa is the 1850's and the shop is equipped with an enormous, two-chambered bellows located in the rafters.

Throughout the state are a wide variety of blacksmith shops that are in various stages of transition which represent the latter period of Mississippi blacksmithing. Most of these shops feature modern arc welding along with the older forge with electric blower. Probably the best known blacksmith in

One of a set of two identical pairs of gates by Samuel Yellin. The gates are permanent fixtures in the Lauren Rogers Museum, Laurel, Mississippi.
Mississippi is Mr. Buschfield, who at ninety-three, can still be found in his shop every day at Ethel, Mississippi, near Kosciusko. Mr. Buschfield was the featured blacksmith at the Bicentennial Celebration in 1976, put on by the Smithsonian Institute. His work is excellent, reflecting years of wagon repair, wagon wheel making, horseshoeing, plow repair, cabinet making and all around “do-all.” He has a gentleness about him that only comes to men who are past ninety and his hand shake feels like you are holding four iron rods.

Blacksmithing in Mississippi, like everywhere else, declined as the flow of people went from the country into the towns and cities during the depression and after World War II. The decline continued through the 1940’s, 1950’s, and on into the 1960’s, as the old shops closed, one by one. In the late 50’s and the 1960’s the remaining yeoman farmers went over to mechanical farming which really put the skids to the old farm shops.

For the past ten years, beginning with the Bicentennial, there seems to have been a slow but steady increase in interest in blacksmithing here. The State Craftsman’s Guild began sponsoring demonstrations. Jim Wallace came from Memphis one weekend to teach a quick course near Jackson. Florwood Plantation opened and installed a farm-type shop. Then the Mississippi Agriculture Department built a farm setting in Jackson depicting farm life in the 1920’s. In 1984, in the Mississippi Pavilion at the World’s Fair in New Orleans, there was a blacksmith demonstration. The most recent effort to expand the craft here occurred in 1985 when the Agriculture Museum invited blacksmiths to operate the farm shop on weekends. There are six men there learning the skills of the apprentice and trying to make that leap over into the journeyman level. During the past year an old, two-chambered bellows was restored for use in the shop. Also, a very good tool display was worked up and a booklet “How to Make a Blacksmith’s Bellows” (Available from R. M. Heath, 142 Greenway St., Ridgeland, Ms. 39157) was published. About twenty Boy Scouts were passed on their metal working merit badge. Inspiration right now comes from the activities at the Sloss Furnace in Birmingham, Alabama, and from Jim Wallace in Memphis. Mississippi smiths attended the First Annual Birmingham Blacksmithing Festival last year to help with Ivan Bailey’s gate project. This year (at the Second Annual Birmingham Blacksmithing Festival) they assisted with Glenn Gilmore’s fountain project at Sloss. John Beckwith, forger-master at Sloss, has been a great help by furnishing an ABANA membership list and by helping contact interested people.

Just recently it was learned that a significant Yellin commission (letter to Editor, the Anvil’s Ring, Summer, 1985, Vol. 13, No. 2) is at the Lauren Rogers Museum in Laurel, Mississippi. The Museum has obtained the National Building Museum’s traveling exhibition “Samuel Yellin, Metalworker” to run from March 23 through April 23, 1986. Jim Wallace has agreed to give a demonstration there April 12.

Mississippi smiths Benny Ci-evt (Pidding Acres Forge) and Bob Heath (Valley View Forge) have volunteered their assistance. Museum Curator of Education, Bob Smith, has scheduled other Mississippi smiths for demonstrations to school classes and other interested groups for the duration of the exhibition. He also hopes to offer a photographic catalog of recent works by Mississippi smiths. The third historical era of Mississippi blacksmithing is gaining momentum. Y’all come!
Jerry Coe
Berkeley, California

Toolstand, 40" H. The butterfly is cut from optical glass.

Photo: Richard Sargent

Silver plated bronze fireplace screen, 48" W X 37" H X 10 D. The screen weighs 180 lbs. and is supported on seven ball bearing races, each enclosing a one inch ball, for ease in maneuvering. The glass was slumped by John Lewis Glass and cut by Thomas Tisch and Andreas Lehman.

Photo: Richard Sargent
Francis Whitaker
Aspen, Colorado

Driveway gates. "Note the unique finish. Underneath is Valoil No. 30 Clear Sealer, a wonderful protective finish. On top is a natural finish available only in certain climates. It is usually deposited at night, when the temperature is below freezing, and disappears when the sun comes out."
Forged steel bi-fold fireplace doors, 5' W x 4' H, 420 lbs.; 3/4" plate, hot chiseled, painted, sanded and waxed. Each door half (110 lbs.) is roller tracked, top and bottom.

Detail; hinges are bronze bushed.

Scott Lankton


Photo: Weyer Of Toledo

"Viking Funeral Sword." The runes are 24K gold dovetailed into the seven piece construction, traditional pattern-welded blade. Translated, the runes would say "Goldtooth." Handle by Robert Engstrom.

Photo: Weyer Of Toledo
Stephen and Michael Bondi
Oakland, California

Railing with integral lamp, 6' X 6½' X 10', forged steel, brass, stainless steel and glass.
John Clark
San Diego, California

Walter Scadden
Manchester, Connecticut

"Rebirth of Ironwork"
Photo: John Dunn
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28 the Anvil's Ring/Spring 1986
First World Congress of Artist-Blacksmiths

The Handworks Chamber of Aachen, Germany will host this major international conference May 12-17th. The demonstrations and lectures, presented by smiths from many countries will be simultaneously translated into English, French and German. The conference expects to have 400 attendees representing smiths from the following countries: Austria, Australia, Belgium, Canada, Czechoslovakia, East Germany, England, Finland, France, Greece, Ireland, Israel, Italy, Japan, Netherlands, Norway, Poland, Scotland, South Africa, Soviet Union, Sweden, Switzerland, United States, and West Germany.

Germany has been a fountainhead of artistic blacksmithing, perhaps more than any other country in the world. The city of Aachen is historically known as the first capital of Europe and has more than a 1000 years of blacksmithing tradition. Aachen is one of Europe's most beautiful, small cities and has served an important role in blacksmithing in recent decades through its schools, artisans, and public institutions.

This is certain to be a most significant assembly for blacksmiths around the world. For further information write:

Handwerkskammer Aachen
Sandkaulbach 21
5100 Aachen
West Germany

Be sure to include an International Postal Reply coupon available at the local post office for 65 cents.
ABANA is assisting in organizing a group tour for this conference. Time is crucial, so if you are interested send SASE to: Ruth Cook, P.O. Box 303, Cedarburg, WI 53012.

Aachen bound . . .

Michael Sarri of Woodstock, Connecticut is our latest ABANA member to go to Aachen, West Germany for the 3 month work-study program with Manfred Bredohl. Michael is a member of the New England Blacksmiths and is one of their outstanding smiths, specializing in American colonial iron. Michael expects working with Manfred will be quite a change from his quiet rural shop and has wisely made his travel time March to May so that he can attend the World Congress of Artist-Blacksmiths to be held this May in Aachen. Good luck, Michael!

Swedish Smiths Host
Achim Kühn

Approximately forty Swedish smiths gathered at the Gislöf Smidesmuseum (blacksmith museum) last September. The museum, established in 1976, is located in the tiny village of Gislöf in the southern tip of Sweden. This congress of Swedish smiths was organized by the museum and featured Achim Kühn of Berlin as their guest artist. Achim lectured on his father's work (Fritz Kühn) and the development of his own work. Of particular interest was the topic of the sophisticated range of surface texture and color Achim has achieved with his work. The Anvil's Ring will attempt to gather more detailed data about this museum and the activities of the Swedish smiths.

Freddie Habberman Update

Freddie, along with his wife and daughter, has recently settled in Augsburg, West Germany. He has accepted a position teaching metal arts at an industrial arts school in Augsburg. In a telephone conversation in October he asked me to tell his friends in ABANA “hello.”

Editor

(photo courtesy of Leonard Masters)
BABA Conference Report

There was a strong international flavour to the Conference "Forged Iron '85", held at Coalbrookdale early in September. Twenty-nine Americans, a group of German smiths, and two from France, as well as those from Britain, made it very much a linking of the old world and the new. The unstinting cooperation of these delegates added greatly to the value and enjoyment offered by the meeting. We are grateful to Tom Joyce for his demonstration of hot worked repousssé, and to Daniel Miller on making delicate brass candlesticks; American smiths certainly have demonstration instruction to a fine art. German smiths contributed a demonstration team, Manfred Bredholz gave a talk about his work, and Oska Hasen showed slides of a wide variety of the grave crosses he makes — a task which requires him to be a "psychologist" as well as a craftsman.

This was the most cosmopolitan exhibition BABA has had, with exhibits from England, Scotland, Wales, Northern and Southern Ireland, France, West Germany, and many different states of the U.S.A.

Some of the largest pieces on show were by Terence Clark. Of his two gates, one incorporated glass draped over the iron, an innovation which could have interesting possibilities. The Addy Taylor Trophy was awarded to Charles Normandale for a console table of great strength and simplicity of line, its only decoration being the intrinsic broken, textural surface of the iron itself. In addition to two large pairs of gates, Michael Roberts showed a brass grave marker cross. His most elegant piece, however, was a high-standing brass candelabra with clean lines, a regular heavy twist in the stem, and holders that wrapped the candles as softly as the calyx of a flower.

A gate by Alan Dawson (see photo) contained two peacocks enamelled in bright colours, a jewel-like creation. There was no ignoring the calor gas stove by David Beaumont, topped by a dragon, which when the stove is operating, belches forth flame as he curls and snarls around a smouldering volcano. Henry Pomfret showed a varied selection of pieces; small objects of stainless steel with a nice purity of line and, particularly attractive, a hand mirror of mild and stainless steel with copper. His mild steel long, narrow wall plaque was recessed with punches leaving a raised flower design which was then highly polished. Different again, was the delicate stainless steel fungi growths set into a wooden branch. Len Hutton exhibited a beautiful oval mirror frame of massed oak leaves and acorns. Completely different in style were the set of modern mirrors by Mike Malleson. Hamish Miller contributed a ram's head walking stick, with a very solid feeling of country tradition, and a fire grate decorated with a mermaid, doubtless inspired by the location of Gate, detail; Terence Clark.

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his shop on the Cornish coast. It was good too, to see simple, traditional work from Scotland — a gate and firegrate by Brian Russell, and some small pieces by Mike Crummy. Melvin Pinnock and the Reeves brothers, Martin and Duncan, showed several items, among them an aluminum hanging light by Melvin, and an unusual flaring, forged bowl set on little celtic animal feet, by Duncan; I liked this as much as anything in the show.

The exhibition was enlivened by splitting, opening-out, and turning back by the German smiths (see photo). Towering over other pieces in central pride of place, was a 17-foot high sculpture by Anthony Robinson called "Creation" in Corten steel.

We hope all our visitors enjoyed Coalbrookdale, the iron bridge, the many museums, the old-time pub, and the barbecue at Blist's Hill. Certainly we enjoyed your presence, your conversation and your friendship. Every conference creates its own atmosphere, and my warmest memories of this one (and warmth was at a premium where the wind howled round those forging stations!) was of renewing old friendships and making new ones.

AMINA CHATWIN
Cheltenham, England

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the inclusion of work by visiting American smiths, among them delicate sculptures and graceful twin brass candleholders by Daniel Miller, and an exquisitely made door knocker, and a repoussé panel by Tom Joyce. Jack Brubaker showed candlesticks in mixed iron and brass, and Brad Silverberg an attractive, neat, abstract table sculpture, in which he seems to have sought to portray and arrest the movement of an object between forms. There was also a beautiful, silver-rimmed bowl by Pete Minier.

Some exhibits were placed in the open, on grass near the famous Abraham Darby furnace. Tim Fortune, who showed his well-established wall and table sculptures inside the exhibition, broke new ground here with a weighty looking garden sculpture. Peter Parkinson exhibited two highly finished sundials in cross-bow form. There was a most interesting exercise in

BABA Conference ... an American perspective

(The following quotes are excerpted from interviews conducted by Susan Showalter at the 1985 BABA Conference at Ironbridge, England)

**Bud Ogger:** "The big difference between the attendance of one of these British affairs and the attendance at an ABANA meet is that all the British smiths here are full time professionals. I didn't meet any rank beginners or anyone that does it for a hobby; consequently, the attendance is less."

**Chris Axelson:** "I think exposure to new things is great and that's what I got out of it . . . seeing the Germans kick out a piece of art real quick — doing modern stuff. They have really gone forward on modern design. I think they are far advanced of American smiths. Everyone still seems to not make any money doing what they are doing!"

**Tom Joyce:** "Believe me, I'll never drink milk in my tea!"

(The following is taken from a report written by Jack Brubaker.)

"Thirty-six Americans attended. BABA is a small organization when compared to ABANA. It is more like one of our (ABANA) larger chapters in size, but while American groups are made up mostly of amateurs, BABA is mostly composed of professionals."

"BABA members presented an impressive number of slide lectures covering sculpture, iron in architecture, ethics in preservation and restoration of ironwork, and a look at the work of several contemporary German smiths and their shops. The importance placed on these lectures was evidenced by the fact that no demonstrations were scheduled at the same time as the lecture presentations. The best attended demonstrations at the conference were those by Tom Joyce of New Mexico and Daniel Miller of North Carolina."

"Many Americans made plans to visit or work with British smiths they met at the conference."
Shop Talk

by Russ Swider

Shop Talk, a question and answer column, will be a regular feature of the Anvil's Ring. Members are encouraged to send questions relevant to the blacksmith's craft to: Russ Swider, c/o By Hammer and Hand, Box 111, Rowe, NM 87562. The technical level of the question is unimportant; the answer will be sought. A selection of questions will be featured in each issue of the Anvil's Ring. Readers are welcome to contribute additional information.

Dear Russ,

For a sculptural project, I needed to forge some bronze or brass. I purchased what I thought would work from a local source, but it fell apart when I tried to forge it hot. What am I doing wrong?

Bill Morrison

Dear Bill,

Not knowing the exact alloy you were dealing with, I suspect the following: 1.) The material was not alloyed by forging. 2.) You didn’t follow the forging specs for the material.

Bronzes and brasses are not all alloyed for forging. Electrical and thermal conductivity, corrosion resistance, machinability, fatigue characteristics, malleability, formability, castability, and strength are some of the properties of various copper alloys. Although an alloy can exhibit more than one characteristic favorably, your primary concern is forgability, which limits your choice.

A few good bets for sculptural work would be: forging brass (60% copper, 38% zinc, 2% lead), naval brass (60% copper, 39.25% zinc, .75% tin), or architectural bronze (57% copper, 40% zinc, 3% lead). Forging temperature for these materials is about 1100°-1300°F. If the material you used fell apart, it could have been overheated. You have to be pretty sharp to work brass or bronze out of a coal forge fire. The visual incandescence you look for when judging steels' temperature doesn’t apply to brass and bronze. If you wait for your bar to glow brightly, you'll wind up with clinkers brazed to your firepot!

You're better off using a gas furnace if forging brass or bronze is going to be a regular part of your repertoire. Please read on, Bill. The rest of this column applies to your problem, too.

Dear Russ,

What are your ideas on building small gas furnaces?

Woodson Cannaway

Dear Woodson,

I have more ideas relative to gas furnaces than time to try them. However, the ones I have tried seem to work quite well. Don Hawley passed on a few ideas that made life around a furnace less expensive and easier. They are included in this text.

The principals of a coal forge and a gas furnace are essentially the same. In both cases, air under pressure is added to fuel to produce heat. If that heat is confined as with a firepot and banked coal or a refractory box, you have a furnace.

The burner of a gas furnace for some reason intimidates owners of small shops. It is actually simpler than a coal forge. It doesn’t need a clinker breaker, ash dump, fire rake, water can, shovel, coal bucket or arm to keep it stoked. Don’t think I’m down on coal forges, but gas forges produce far more work in a given period without constant attention to prevent burning. Also, try to get a 36" heat out of a standard coal firepot! I built a special, long firepot for a workshop in Colorado, but it still can’t touch a gas furnace.

In this very basic drawing of a gas furnace there are many variables which can be used successfully.

Fuel, for instance, can be supplied by a gas main or a propane tank. I use propane with a standard regulator on a 500 gallon tank. This feeds the shop’s main line. A valve in the line to the furnace capable of regulating flow is important. It should be able to completely shut off the flow. You can get by with an ordinary gate valve, but there are numerous types of shut-off and metering valves made especially for gases. You don't want gas in your shop unless you plan to burn it, so check all fittings with soapy water.
and be sure the shut-off works 100%. A 9/16" ID line supplies my small (1 cu. ft.) furnace and a 3/4" line is hooked up to my 4 cu. ft. furnace. Both taps into a 1/4" line which allows for additional future furnaces.

A few years ago I built a small, compressed air-propane burner for special application. The nozzle feeds into a temporary firebrick box built to suit the need. A 1/2" gas hose and quick-connect air hose provide the fuel/air. It can be set up almost anywhere and put away when not in use. For rivets, collars, and small stock this is the ticket. The air pressure must be regulated to about 5 psi. A 5 gallon propane bottle is big enough for my unit and will run the burner for well over 20 hours. That's cheap heat!

Air can be provided by a blower or compressor. Since you only need 5 psi or so, a compressor is overkill. A blower is probably a more efficient choice. A positive pressure type is preferred over a squirrel cage type, although both will work. Many squirrel cage blowers are designed for moving a large volume of air at low pressure. Volume isn't as important as pressure. Without getting technical, a vacuum cleaner blower will fire a 1 cu. ft. furnace. If money is tight, Goodwill has a good supply of blowers you can improvise with.

A compressor can also be used to supply air, but a pressure regulator capable of an adequate flow at 5-10 psi is necessary. Regardless of the air supply used, a valve to regulate flow is also necessary. It can be a homemade butterfly valve, as positive shut-off isn't critical.

The burner, which includes the mixing chamber in this description, is nothing more than a piece of pipe in which the gas and air mix and a nozzle where the mixture burns. I've used a pipe bell with the small end screwed onto the mixing chamber for hundreds of hours without replacing it. Keep the nozzle out of the furnace chamber for maximum life. Factory burners are available at a much higher cost, or a high temp alloy or stainless pipe could be used for a long-lasting setup. I recommend some low-cost experiments before you build that ultimate burner.

The furnace box is an area where design pays off. A cubic foot can be 12" x 12" x 6" or 6" x 6" x 48". In the cube, 2 burners at the bottom of the box can give you even heat. In the 48" furnace it would take 6 or 8 smaller burners to give you a long, even heat. The structure of the firebrick and the placement of the burners is enough information to fill a book. A good one is: Kilns: Design and Construction, by Daniel Rhodes (Chilton Book Co.).

The basics for building a good forge furnace are pretty simple. Build a box just big enough to suit your needs using high temp hard fire brick inside to store heat and take physical abuse. Cover it with insulating firebrick or a ceramic fiber blanket or board to keep the heat where it should be. Add doors front and back so you can take end or center heats. A slot or opening on top is good for heating plate or odd shaped pieces. Cover them with ceramic fiber blanket for faster heating. The doors can be as simple as stacked fire brick, or a crank operated type for regular use.

Place the burners so they cause mixing or turbulence of the furnace atmosphere. This aids in evenly distributing the heat and eliminating hot spots. Don't mortar anything into place until you've tried several configurations, and have built a few "mind" furnaces at your local library. By all means though, try one. They're a gas!

Dear Anonymous Smiths,

Cherry red has to be one of the vaguest blacksmithing terms ever. In New Mexico, at noon, on Equinox, with a clear sky, in my shop, with the door closed, I forge weld at "Royal Ann Cherry", quench 1095 at "Sour Pie Cherry", and usually burn myself when steel has cooled to "Bing Cherry".

There are a few simple solutions to this dilemma. In average, dim shop light there is a darkness or shadow in mild steel (1020) when it is in the red, incandescent range. The point at which that shadow disappears is critical temperature or 1425°F, the point at which scale begins to form is 1550°, above 1600° 1020 is non-magnetic, at 1680° the scale begins to flake off, and at about 2000° in an even reducing fire the surface of the material looks oily.

If you need more precision or want to judge temperature outside of the incandescent range, Tempil Division has a series of low-cost, heat sensitive crayons, paints and pellets. They melt or change color at ± 1% of a given temperature. In my opinion they are better than a pyrometer because they can test the piece, the furnace or the fire. Tempil offers products from 400°F to 3000°F. You can vastly improve your heat treating practice with a few simple Tempil sticks. Write to: Tempil Division, Big 3 Industries, Inc., Hamilton Blvd., South Plainfield, NJ 07080.

Happy Hammering!
Russ

Dear Russ,

What temperature is cherry red, and if I haven't got a pyrometer, how am I supposed to tell how hot something is?

At least 167 anonymous blacksmiths

Russ Swider is a full-time blacksmith in Rowe, New Mexico and serves as a member of ABANA's board of directors.
Regional Report

Western States Blacksmith Conference II

Labor Day weekend is the latter part of summer for the mid-lands and the plains; however, high mountain country is just reaching the most voluptuous point of its fragile summer beauty. The crisp mornings and cool clear nights seem to heighten one's senses to the surrounding beauty. Truly blending with this beauty is the Timberline Lodge, Mount Hood, Oregon, which was the site of the second bi-annual Western States Blacksmith Conference. This year the conference was sponsored by the North West Blacksmith Association and Timberline Lodge.

The lodge was named Timberline because it was built at the line of elevation where the tall timbers stop and give way to the smaller plants that are equipped to withstand the rigors of higher elevations, deep snows, and brutal winds that can reach 100 mph or more. Perched on the edge of that savage beauty is this magnificent lodge, constructed with massive stonework and huge hand-hewn logs. Everywhere one looks throughout the lodge ironwork abounds; fireplaces, door hardware, hinges, lighting and furniture. The dining room gates weighing eleven hundred pounds are impressive, with their heavy hinges and journals — they still pivot as smoothly as silk. The design of the gates, as well as all the other hand-crafted marvels, were made with themes from the mountain surroundings. Foxes, squirrels, birds, beaver and other wildlife are represented vividly throughout the lodge. To all blacksmiths, novice or master, this national treasure has much to offer; one can't help but notice the many details.

The conference featured a special demonstrator, Russell Maugans. Russell has extensive knowledge of the iron work in the lodge. He learned the techniques used in the forgings throughout the lodge directly from Mr. O.B. Dawson. O.B. Dawson supervised the blacksmiths who worked on the original project (begun in the '30's). The work was done in Portland, Oregon in a shop sponsored by the Work Progress Administration. The shop produced two other large jobs during this time in addition to Timberline. The University of Oregon and Oregon State College both had extensive amounts of iron work made to embellish their campuses.

Russell Maugans is a member of a group known as "Friends of Timberline." This group supplies expertise and service towards the preservation of this national treasure. Maugans is responsible for in action and listen to his extensive knowledge about the background of the lodge.

Renato Ferrari of Italy demonstrated effective forging techniques of respoussé scroll ends, which he uses extensively in his business. Renato makes a beautiful line of headboards in designer colors; they are stunning. His enthusiasm and attention to detail gave the onlookers evidence of his many years of work in his chosen field. The finished product from his first demonstration was a trivet, which doubles as a wall hanging when not in use. Its beauty was

Richard Pozniak striking for Jeffrey Funk.

many restorations in the lodge and has been called upon to forge railings and other necessary pieces to comply with present day codes. These additions blend perfectly with the existing iron work in the lodge. It was a special treat to see Russell

enthusiasm and attention to detail gave the onlookers evidence of his many years of work in his chosen field. The finished product from his first demonstration was a trivet, which doubles as a wall hanging when not in use. Its beauty was
Jeffrey Funk of Big Fork, Montana is a smith who adds new meaning to the phrase "go beyond your imaginary boundaries." Jeffrey poignantly makes one realize there are infinite variations to basic techniques. The basics are what we really have; draw, upset and weld. It is our imagination that allows us the avenue to drive these basic techniques to their limits. Jeffrey accomplishes a wide variety of new looks using everyday materials. One Jeffrey's unique approach to basic techniques is reflected in the simplicity of his designs, a much sought-after quality.

Jim Wallace is the curator of the National Ornamental Metal Museum in Memphis, Tennessee. He is well-versed in teaching traditional techniques for the beginner. His work often involves the union of wood and forged steel into artistic variations of functional items. Part of the demonstration included Phil Baldwin. Their combined efforts netted a harpoon, reportedly suitable for an adventure at the helm of a small boat, on a quest for Moby Dick. When working together these two smiths seem to have a chemistry that hints at fantasy.

Carl Jennings of Sonoma, California, has a wide variety of ingenious tools he uses to raise different metals into unique shapes. Carl fascinated the people attending his demonstrations with his unusual design style and intriguing results. His approach to the medium places a distinct signature on his work. A third generation blacksmith, Carl Jennings has built a reputation in distinctive architectural iron work. His imagination and ability to create tooling for each job add a great deal to his style.

The Conference gallery contained extensive works by smiths from around the country. Each time I attend a gallery I am struck by the measurable increase in skill demonstrated by the finished works on display. These galleries are like a silent conversation between the minds of the smithing community.

The banquet put on by the lodge was equaled by nothing I have experienced in my extensive travel to participate in blacksmith gatherings. The ice carving of an anvil accented the lavish display of foods. Food is as much a visual feast as it is a feast for the palate.

The show following dinner was a subtle mixture of comedy and erotica with the "straight man" antics of Russell Jaqua introducing the belly dancers. I'm sure Russell's imagination will be employed again in the department of entertainment.

The auction staged by NWBA was to benefit the Yellin Foundation, The National Ornamental Metal Museum, and the Timberline Lodge. The lodge's portion will be used to purchase iron work for the lodge. The auction brought in well over $4,000 to be divided equally among the three organizations.

This conference was a great success and a very enjoyable event. The Western States Conference is held on the year between the national ABANA conferences, and attendance is made up of smiths from across the western states. Congratulations to the NWBA and Timberline Lodge for hosting this event. I am sure the over 200 participants are thankful for all your efforts.

CORKY STORER
Maple Valley, Washington
New England Hosts Bredohl

About thirty-five smiths from the New England Blacksmiths Association gathered at Peter Happny's shop in Portsmouth, New Hampshire during the first week of October for a two day workshop with Manfred Bredohl. With his warmth and splendid demonstration ability, Manfred shared his Germanic forging skills to the delight of those attending. Besides covering a broad range of techniques and approaches in his general demonstration, Manfred produced a sculpture with an ease that was most exceptional. It was an impressive and meaningful opportunity to watch and learn from one of Europe's leading smiths.

After the workshop Manfred proceeded to the home and shop of Dimitri Gerasarakis for a few days of his usual mischief and rest before returning to Germany. It's always a pleasure to welcome back such friends.

DAVID COURT, Northfield, NH

"Doings" on the Delaware

The Mid-Atlantic Smith's Association (MASA) has been formed to encourage and promote the art of blacksmithing. It renews the efforts of Walt Billings, now of Florida, to bring together ironworkers of the Delaware Valley and neighboring states. Already, they have convened at the Yellin Studio, Philadelphia (11/2/85); Fontana Forge, Smyrna, DE (12/7/85); and Arden Forge, West Chester, PA (2/16/86). These informal gatherings will be held every other month, between issues of the MASA newsletter. Don Plummer is serving as president and John Dittmeter as the newsletter editor. To join, send $10 (payable to MASA) to treasurer Mary Hudson, 415 Hudson St., Milton, DE 19968.

Seeking Material

The Anvil's Ring is planning to do future articles concerning works designed and produced by blacksmiths in the areas listed below. If you have produced items that fall into any of the following categories, please send photos and include a small amount of text if possible.

- Iron Jewelry
- Forged Furniture
- Contemporary Light Fixtures
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Foundations

A Resource for Beginners... by Bud Oggier

Foundations is a new column designated for the novice and we are fortunate to have Bud Oggier as its author. While this material is not geared for the experienced smith, I think anyone who has tried to teach the craft to a beginner will appreciate and profit from Bud’s words. For the person who is attempting their first time at the anvil, let Bud guide you along. It doesn’t get any clearer than this!

Well, Jean, so you’d like to learn to be a blacksmith. Let me show you around the shop a little and then we’ll get started.

In order to do any serious forging you need at least four tools: something to heat with—a forge something to hold the iron-tongs something to hit on the anvil something to hit with—the hammer.

“This is my forge. It has a ½” plate for a base, with a fire pot close to the chimney. A supply of air comes from an electric blower underneath. Notice the forge is set up so I can put a long bar into the fire with plenty of room on each side. I can hit the middle of a twenty foot bar if I need to.

“My anvil is set two steps away so I don’t have to walk much, but with plenty of space all around it to manipulate a piece. The anvil is set up with the horn at the left. In some shops the horn is set to the right. I don’t see much advantage either way, so I guess it’s all in what you get used to. The height of the anvil needs to suit the smith working on it. A good rule of thumb is that the knuckles of the smith should hang just about at the top of the anvil face. Here, at the right of my anvil, is a rack and table that holds my hammers and ‘tools to be struck’. My vise is mounted at the end of the forge and the tong rack is on the wall beside the forge. As you can see, there are a lot of other things around here, but we’ll talk about them when we get to them. Right now, let’s talk about fuel for our fire.

“Soft or bituminous coal is used for blacksmithing. Any soft coal that has the following qualities is suitable: low in sulphur, low in ash content, high fusion point of the ash, and it must convert to coke readily. Sulphur in coal causes the iron to become ‘hot short’; that means that the iron breaks easily when at forging heat. A high fusion point reduces the amount of ‘clinker’ that forms in the bottom of the fire. Clinker is really solidified molten ash. If you find a coal that meets all of the above, don’t be concerned if it contains a fair amount of ‘fines’; this will coke up and be fine. In fact, some smiths prefer to use a pulverized, soft coal. If the lumps of coal are larger than an egg, break them up with your hammer. I like nothing larger than a walnut.

“How about we make a fire and get started.

“Jean, you’ll see as we work along that I’m pretty set in my ways and I never work or watch without safety glasses.

“Each day when I’m down here at the forge, I separate the ‘green’ coal from the coke, put the coke over here at the side of the forge, and clean out the fire pot completely. I like to start out the day with a new fire that I know has no ash or clinker in it. To start a fire I use three, full sheets of newspaper wrapped up in a ball (leaving a small portion loose for lighting). Light the tag end, hold it in the chimney hole for a few seconds to get the draft started, drop it into the firepot or ‘tuyere’; add some small coke from the pile, and turn on the blower enough to make it burn briskly. Put on more coke as soon as the fire is burning well. Build up a pile about three to four inches above the fire pot. Now add green coal to both sides and the back. Don’t be stingy.

“You don’t burn coal in the fire, but convert it to coke by heating it on the sides of the fire and driving the gasses out of it. Coke burns much hotter than coal. Coke is what you actually burn.

“Well, it looks like the fire is burning well, so we can shut back the blower. Always try to work with the smallest fire you can that will do your job. Too large a fire only uses up more fuel and makes clinker faster. If the fire gets too large, put a little water along the edges and cool it off.

“Okay, Jean, let’s get started. In forging, all you can do is make a piece longer and thinner, or shorter and thicker. All forges are variations of these two functions.

“Jean, the way I like to teach is to tell you what we’re going to do, show you how to do it and then have you try it.

“To start with, let’s take two pieces of ½” round, mild steel and forge one of the ends flat. We’ll heat the portion where we will forge until it is about orange, then put it on the anvil and forge it flat. Other types of steel may require different temperatures. Notice when I put the piece in the fire, I push it straight in, not down toward the bottom. The reason is that the air blast enters from the bottom and I want most of the oxygen consumed before it reaches my work piece. Heat plus oxygen causes scale (ferrous oxide) and the more scale, the smaller the piece becomes. Sometimes you will get as much as a 10% reduction in size. When you work at the anvil take a comfortable stance. Try not to bend over too much; it gets tiring. Hold the hammer close to the end of the handle and strike firmly.

“Well, my piece is hot enough to work. Notice that my hammer blows start at the end and work toward me. Try to hit with the hammer face parallel to the anvil. I’ll forge this...
down to about ¼" thick. Okay?
“Now you try it.
“Hold it, Jean. You’ve done well, but now the piece has cooled off so it won’t forge well. No one ever made any money pounding cold iron. Once your piece has reached a ‘blood’ red it’s time to reheat. Notice that your piece is not uniform in width; that’s because your blows were not uniform in force.

“Now, let’s work on the other piece of steel and make one end square. In forging a square we’ll do everything we did before, with one addition. Between each hammer stroke rotate the piece a quarter turn.

“I like to let my fire develop a large bank of coke on either side and pull coke from the back end to feed the fire. I think it keeps my fire smaller and the side banks of glowing coke act as an oven which intensifies the heat in the middle.

“Well, let’s make a square on the other end. Remember to do everything as before, plus turn the piece between hammer strokes.

“Now my piece is hot enough. I hit it once, turn my hand a quarter turn to the left, hit it, turn to the left, hit it, turn back to the right, hit it, turn, hit, turn. See how that works?

“Okay, you try it. Good!

“Now, let’s take the piece we are working with and make the square end round again. To make a square piece round or to reduce the diameter of a round piece: first forge a square, then knock down the edges to make an octagon, and then forge it round. Remember to put your piece straight into the fire, not down into it. Pull some coke over it, adding more from the back if you need it. Set the heated piece on the anvil on its edge, not on one of its flat sides. As you forge this edge flat you will be simultaneously flattening the opposite edge as well. This is because when you hit a piece on the anvil it is really getting hit twice; once on the top by the hammer, and also on the bottom side by the anvil. After you have forged those two edges flat, turn your piece and forge the other two until you have an octagon with sides of equal size.

“Fine, Jean, but try to make each blow with the same force. Good, that’s better! Let me heat up and I’ll show you how to completely round it up.

“Notice my blows are lighter now because I don’t have to move as much metal. Try to keep your hammer face parallel to the anvil. Roll the piece after each blow and don’t hit the same place twice. The less forging you do while rolling the piece, the better. Do just enough to round it up. See how that came out? Your turn.

“Don’t be afraid to let your piece get hot enough — bright orange to yellow is a good heat for this steel. Now you’re ready — remember, don’t hit hard and turn after each blow.

“Great! Notice your piece is longer now than when we started. The stock had to move somewhere and the only place it could go was to get longer and thinner.

“Well, Jean, let’s make this piece shorter and thicker.

“The process we are going to do is called ‘upsetting’. To do this, heat the piece, keeping the heat contained in the area to be made thicker or upset, but strike it on the cold end.

“I want to take two heats this time to show you what happens before you try.

“Now that the end of my piece is hot, I put the hot end on the anvil with the piece vertical and strike the cold end. It’s not so much how hard you hit it as how often. See, now the hot end is starting to swell out. Watch your piece carefully. If it bends, straighten it out before you go any further, then continue.

“Jean, the length of the section in this bar we’re trying to upset is about 3" long and is less than ½" thick. If we try to upset the entire length at once, we would have a lot of bending problems. To overcome this, I’m going to reheat the piece to just beyond the upset portion, cool off about 1½" of the end with water, and then upset further by striking from the same end as before. One other thing that will help is to first forge a short, blunt, four-sided taper on the end we want to upset, to concentrate the force in the center.

“I’ll upset it the way it should be done. Once the piece is hot I forge the point — nothing fancy — then cool it off in this tank of water known as the ‘slack tub’ or ‘quench tank.’ Next, I put the other end in the fire, get it up to a bright yellow, and start the upset. Notice, if it’s starting to bend, it needs straightening. Now I can upset more. This time when I take it out of the fire, I’ll cool off the first portion of the upset I just made. The objective is to have only the portion I want to upset at a working heat.

“To cool the first portion of the upset, I pour water from the slack tub onto the far end of the iron with a can and then dip the other tip of the iron in water to cool it. Now I can upset. See — the heat, and therefore the swelling, is all contained between the two cool places. One more heat to upset the tip; this time I have to cool almost all that has been upset before with my water can so that only the end gets brought up to size.

“Now that it’s all been upset, I’ll round it up a little. There, all the work we did on it has disappeared and it’s back to its original size.

“Your turn, Jean. Remember, point the end, cool off about half the length, heat about 1½" of the other end, and upset. Watch for bending, and straighten if necessary.

“Watch out, Jean, it’s starting to bend — you had better straighten. That’s better, now upset some more. Now, another heat. Cool off both ends. Go for it! One more heat for the tip. Great! When you cool, it’s not necessary to get the piece cold, just cool enough to get most of the red out of the area you don’t want to upset. With some practice you’ll learn how much heat the piece can stand. Generally, it’s
easier to forge down than to upset, so don't be afraid to upset a little more than you need and then forge it down to size.

"Jean, let's forge a square taper of a given length and point size. In this case, let's make a taper 2" long with a 1/4" square end.

"First, forge a blunt taper on the end down to 1/4". Use the same technique you used to make the square. Hit! Turn! Hit! Turn! Okay? We'll use 1/2" square, mild steel. The only thing different from the making of the square is to raise your hand holding the iron up so the angle between the anvil and hammer form a taper.

"Here we go. End up! Hit! Turn! Hit! Turn! Your turn. You're doing well, but try to keep your holding hand at the same level so the taper is the same on all sides. That's better.

"The size of the end is established. Let's put a chalk mark 2" back from the end of the anvil; that will be our mark to tell us when the taper is long enough. When you get an anvil of your own, it's a good idea to learn the dimensions of the anvil so you can use it as a rough and ready ruler. For instance, the face of this anvil is 18" long x 4 3/4" wide, the hardie hole 1 1/2" square, the hardie hole to end of anvil is 4", etc.

"Time to finish this taper. Start almost at the far end and work the taper down as before. Hit! Turn! Hit! Turn! Check against this chalk line a little more. Hit! Turn! Check! There, that's okay. Your turn.

"That's fine, Jean. Good job.

"Notice the iron is starting to move a little easier? Your blows show more confidence and uniformity. That's good.

"You may want to get a copy of one of the many instruction books available. In my opinion, one of the best is *The Blacksmith's Craft*, published by the Council for Small Industries in Rural Areas (COSIRA). It can be obtained from the book sellers that advertise in the Anvil's Ring. If you get it or any other, I'd like to go through the exercises with you before you try them alone for awhile.

"See you next time!"

*Bud Oggier is a blacksmith from Cushing, Maine. He presently serves on the ABANA Board of Directors.*

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**Blacksmithing and Decorative Iron Books**

1. *Antique Iron*, Schrifer, $3.50
2. *Art Nouveau Decorative Ironwork*, Manton, $5.95
3. *The Art of Blacksmithing (Revised)*, Beakor, $19.95
4. *The Art of the Wheelwright*, Del Witt, $2.95
7. *Artist-Blacksmith Illustrated*, Metz (German title & text), $29.95
8. *Beautiful Forms of Iron*, Roper, (German title & text) $5.95
9. *The Blacksmith and His Art*, Hawley, $12.50
11. *The Blacksmith's Craft*, Cosira, $8.75
14. *Catalog of Drawings for Wrought Ironwork*, Cosira, $14.95
15. *Colonial and Early American Lighting*, Hayward, $6.95
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17. *Decorative Antique Ironwork*, d'Alloign, $11.95
18. *Decorative Ironwork*, Cosira, $8.75
19. *Die Re Metallica*, Agricola, $15.95
20. *Designs of Contemporary Decorative Ironwork*, Vol. II, (German title), $17.95
23. *Direct Metal Sculpture*, Mallach & Selden, $12.95
24. *To Draw, Upset, and Weld*, Lavarnak, $8.95
26. *Encyclopedia of Ironwork*, Heron, (German title), $32.95
27. *Garden and Entrance Gates*, Hoffman, (German title & text), $15.95
28. *Gates and Screens*, Schnieter, (German title & text), $14.95
29. *A Historical Guide to Wagon Hardware and Blacksmith Supplies*, $13.50
30. *Ironworks*, von Heider-Altenberg, (German title & text), $26.95
31. *Keys and Locks*, Piekholer, (German title & text), $24.95
32. *Making of Tools*, Wegers, $11.95
33. *Metals for the Engineering Craftsman*, Cosira, $8.75
34. *Methods of the Artist-Blacksmith*, Wott, (German title & text), $15.50
35. *The Modern Blacksmith*, Wegers, $9.95
36. *Modern Wrought Ironwork*, Hoffmann & Marsh, (German title & text), $24.95
37. *Practical Blacksmithing*, Richardson, $9.95
38. *Professional Smithing*, Biever, $19.95
39. *The Shaping of Steel*, Kuhn, (German title & text), $29.95
40. *Signs and Sign Brackets*, Leonard, (German title & text), $18.95
41. *Southwestern Colonial Ironwork*, Simon & Kuhn, $14.95
42. *Staircases and Railings*, DeMichel & Klauser, (German title & text), $19.95
43. *Step-by-Step Knifemaking*, Beye, $10.95
44. *The Work Methods and Tools of the Artist-Blacksmith*, Schnieter, (German title), $29.95
45. *Wrought Iron*, Kuhn, $21.95
46. *Wrought Iron*, M. Baer-Haithold, (German title & text), $39.95
47. *Wrought Iron in Architecture*, Gmehl, $9.95
49. *Wrought Ironwork*, Cosira, $8.75

California residents add 8% sales tax. Add $1.35 for the first book plus 45¢ for each additional book to cover postage and handling. *Money Back Guarantee* — full refund when returned postage paid within 10 days. Prices are subject to change without notice. Send check or money order to Norman A. Larson, 5426 Hwy. 246, Lompoc, Ca. 93436

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the Anvil's Ring/Spring 1986  39
Monkey Business

TOBY HICKMAN
Petaluma, CA

A serviceable monkey tool can be made using a large socket, the kind that seem to show up in blacksmith shops by their own free will, or are found in fruit boxes of junk at the flea market. The drive hole in these sockets is the easiest and truest square hole I never made! I have used both 1/2" and 3/4" drive sockets. I think 3/8" and 1/2" drive sockets would work if the inside diameter of the socket is larger than the drive hole and there is no obstruction through the socket.

Weld the socket to a 6" to 10" piece of schedule 40 pipe, using pipe of a similar diameter to the socket. For best results, preheat both socket and pipe, then weld using 7018 (low hydrogen) rod. Next, using a cutting torch tip, normalize the heat-affected zone only. Also, use a heat sink to maintain as much temper in the face of the socket as possible. Now, weld a block of mild steel to the other end of the pipe (I use a 1 3/4" length of 1 1/2" sq.) for the "striking block." Although this weld is not as critical as the weld at the socket, it is still wise to normalize the heat-affected area, as constant pounding causes early failure in the large crystals that were formed on either side of the weld as it cooled.

Now, put a radius on the "business end" of the square hole. I prefer doing this step after the welding as it gives me something substantial to lock in a vice. Use a file or similar tooling for this operation. This is done so that the monkey tool will leave a radiused corner at the base of the tenon. The reason for this radius is to avoid leaving sharp square corners, which can readily produce cracks. Steel hates included 90 degree angles; it thinks they are cracks. Therefore, I always try to have a radius on the inside of square corners.

Next, relieve the edge of the monkey tool to a slight crown. This allows the edge of the bar end to be higher than the tenon base, thus providing a positive fit around the perimeter of the joint. Now, crown the "striking block" end, as this will help achieve an easier square blow through the central axis of the tool. For both of these crowning operations I use a stationary belt sander.

I use rapid blows with a light hammer as this upsets the face of the joint without upsetting the bar below. Also, thick (3/4" or more) copper jaw liners on my vice will hold steel without scarring or slipping when upsetting or riveting.

Fig. 1 Monkey Tool:
1. Large 3/8" or 1/2" drive socket
2. Sch. 40 pipe of similar diameter
3. Block of mild steel ("striking block")
4. Weld and normalize heat-affected zone.
5. Radiused edge of drive hole
6. Crowned face of socket
7. Crowned face of striking block

Fig. 2
Bar being held in a vice equipped with copper jaw liners. (Monkey tool being held by phantom blacksmith.)

Fig. 3
Shows tenons before and after use of monkey tool.

Fig. 4
Face of socket, radiused and crowned.
Power Hammer Buyer's Guide

FRED CAYLOR
Zionsville, IN

1. If you don't know what to look for, take someone with you who does.
2. Don't worry about the condition of the babbitt in the shaft journals or clutch pulley, unless they are so bad there might be shaft wear. (To replace them, refer to Ward Brinegar's article in the Anvil's Ring, Fall '83).
3. Check the wear in the toggle pins and look for elongated wear in the arms and toggles. If elongated, they will have to be bored out and oversized pins made.
4. It is very common for the upper arms to have been repaired. If done properly they will function as good as new. If they have been put back together in a slight twist this will cause the toggle bolts to not line up properly and will wear the pins out as fast as you can make them. Remedy: ream the holes through arm and toggle while in the correct position. Make oversized pins.
5. Check for wear inside of the ram where toggle pieces ride. We recently found one that was worn so badly they had to be filled with weld and milled to size. This calls for hours of work and special machinery.
6. Check for wear in the vee guides on the front and rear ram guides. These control the path of the ram and it would take a lot of work to correct. The afore-mentioned hammer had the front guides worn almost through and had to be rebuilt and reshaped due to warpage from welding heat. This hammer was worn out from lack of lubrication.
7. Last, but not least, don't let your desire to own a hammer at a bargain price induce you to buy one that needs work you can neither do yourself nor afford to have done. A poor hammer is worse than no hammer at all. Save your money and buy one that you will enjoy using and can make money with. Price should be secondary if you have work for it.
8. One thing I would like to suggest is that when you acquire your hammer take the time to strip it down completely. This way you can inspect it completely and make all repairs as you reassemble and repaint it. You will then have a piece of machinery that you can be proud of and it will give you years of service.

3 into 1

KEN HAMBEL
Castle Rock, Colorado

(Courtesy of "Forge Facts," newsletter of Rocky Mountain Smiths.)

Have you ever tried to forge weld three round pieces together only to have the top piece slide between the two bottom pieces, ending up with three pieces side by side? If so, Bunky, maybe the technique I use for this situation will be of help to you.

1. Hold pieces together with wire, hose clamps, etc.
2. Bring to welding heat and place in bottom swage or swage block with 2 pieces down and one up.
3. Strike straight down; pieces will weld together without sliding apart because the sides of the swage holds them together.

Good luck!
A Problem Solving Welding Rod

STEVE WOODRIDGE
Sheridan, IN

(Courtesy of "The Silent Swedge," newsletter of the Indiana Blacksmithing Association.)

This article is written to inform the membership of a type of welding rod which I use in my shop to weld together dissimilar metals when fabricating power hammer dies, spring swages, handled punches and handled hot cutters. This welding rod will withstand a hot quench without cracking. It is also used for just about any other welding job involving different kinds of metals welded to each other. Example:

Tool Steel to Mild Steel
Tool Steel to Stainless Steel
Stainless Steel to Mild Steel
Mild Steel to Cast Iron

Also:

Tool Steel to Tool Steel
Stainless to Stainless

The American Welding Society classification for this arc rod is E 312-15 or E 312-16.

E — is the designation meaning arc electrode.
312 — is the alloy.
-15 — means direct current only.
-16 — means AC or DC. This is the one which we will be concerned with, since most people have or can borrow a “buzz box” AC welder.

Many companies sell this arc welding rod using their own brand names. I will list every one that I know of.

312 SS welding rods were developed to weld the alloy fins on jet engine rotors; consequently, the welds had to be very strong and able to withstand extremely high temperatures. The brand of 312 SS rod I use is manufactured by Arc Products Chemetron Corp. Its name is Arcaloy 312 AC-DC. The reason I use this brand is that it hasn’t failed me yet; it’s also the cheapest ($4.00 per pound at time of writing). I get it in Indianapolis at the Indianapolis Welding Supply Co., 315 West McCarty Street. Call Al Gough at 1-800-382-9006 (toll free).

There are some other very high-priced rods in this category of 312 SS. They are Eutetic 680, Super Missel Weld, Certanium 792 and Coor-Alloy 3000. These rods run $25 to $30 per pound. They all work very well, but not any better than 312 SS.

You can also weld many higher carbon steels with a low hydrogen rod called 7018 which is inexpensive (less than $1.00 per pound at this writing), but when making tools with weldments that need to be heated and quenched at high heats, 7018 welds will often fail. You’ve lost money when you have to do the
job over.

When building power hammer dies, I start with a mild steel plate 4" x 6" and ½" to ¾" thick for a 50 lb. Little Giant. I weld 2 pieces of ½" x 1¾" on the bottom to form the dove-tail with 6011 arc rod. To the top of the plate or die side I weld (with 312 SS) a piece of tool steel, if I can get it, or a piece of car or truck axle (alloys 1037, 1047 or 1050), or a piece of car or truck leaf or coil spring (5155, 5160 or 9260); a piece of torsion bar (5160) or steering king pin (5145).

Anyway, I take a piece of high carbon junk steel and cut, grind or forge it to the shape needed for the die, weld it together with 312 SS rod, bring the whole mess up to about 1600°F in the forge and drop it in a 30 gallon barrel of used motor oil to quench. Be sure to have a lid for the barrel and set the 30 gallon in a cut-off 55 gallon barrel to catch the oil that boils over. It will boil like mad for about 10 minutes. Don't forget to put it on a wire so you can pull it out after it cools. I don't draw a temper because I only use the dies on hot metal. My handled hot punches, handled hot cutters and spring swages are made from jackhammer bits (alloys S1, S2 or S3). I forge and grind out the shapes I need, then drill a ½" hole through the center and weld in a ½", mild steel rod for a handle with 312 SS, then heat 1500°F and oil quench.

The above general statements are what works most of the time for me. Keep this in mind, though; higher carbon steel needs to be preheated to 400° or 500°F before you weld it (use a torch or forge). If you want any more information concerning welding, I was a government certified welder at Naval Avionics (aircraft, missile and submarine parts) for quite a few years.

Steve Wooldridge
R.R. #3, Box 440
Sheridan, IN 46069
(317) 758-6076

How to Drill a Square Hole

BILL GABLE
Damascus, VA

(Courtesy of "The Tuyere," newsletter of the Illinois Valley Blacksmith Association.)

1. Drill a hole ¾ the size of the square.
2. Punch 4 set holes in line with edge of circle, freehand.
3. Drill out 4 holes using a bit ¾ the size of the square (1" square hole — use ¾" bit for the 4 holes).
4. Drill final hole the same size as intended square.
5. Remaining material to be filed out is only 1/10 of original.

The French Connection

For those of you looking for the ideal material for repoussé stock we can thank our French colleague, Serge Pascal for disclosing his material: ARMCO blackplate 1005, produced in Ohio, USA. This 20 ga. steel is so soft that annealing is usually not required, eliminating surface scaling. Serge and Jean Wiart, both members of ABANA, have been residing in New York the past year as part of the French team assigned to the restoration of the Statue of Liberty.
Dovetail Details

MICHAEL SPENCER
Port Medway, Nova Scotia

I needed a small radius fullering top die for my 25# Little Giant. How to make a top die without lots of grinding and filing or a trip to the machine shop? If you have a cut-off band saw and arc welder, here's how:

Measure the dovetail angle of existing die (A, Fig. 1) and cut off a piece of ½" x 2" to the same angle (Fig. 2). Weld the die blank to the angled cut, keeping the long axis of the blank perpendicular to the long axis of the ½ x 2 "handle". (Fig. 3)

Now set the assembly in the saw vise, insert two pieces of small diameter round-stock (Fig. 4) to tilt the blank more or less parallel to the saw blade and lightly tighten the vise. Position the blank under the sawblade so that the blade is completely on the blank, tighten the vise and make the cut. Chisel or grind away the welds and, at the bench, chisel away the wedge of waste metal. (Fig. 5)

It may be that there isn't enough clearance between your saw blade and saw vise to do this with a blank of full thickness (T, Fig. 3). I made the cut on a piece of 1" x 2" and then welded on ½" extra thickness to make the final 1½" thick die.

This is quick enough to justify making the die from mild steel to which a ball, rod, wedge or whatever can be welded with a working face.

Rescue Resource

Got a technical problem? Weld won't hold? Lumps in your E-Z weld? Is your anvil staying out too late at night and doing poorly at school?

For help with these or similar problems direct your inquiries to the ABANA SWITCHBOARD. Write or phone Fred Caylor, 3602 S. 800 East, Zionsville, IN 46077 — Phone (317) 769-6351 evenings or (317) 769-6537 days.

By the way, Fred Caylor and Michael Schmitt are compiling information for a "how to" book filled with technical tips and tricks of the trade. If you have a tip to share and would like to have it included, send it to Michael or Fred at the above address. Proper credit will be given to the contributor. All proceeds from the sale of the book will go to ABANA.
Mexican Blacksmithing Tips

BILL CALLAWAY
Phoenix, Arizona

On a recent trip deep into Mexico I had a chance to work for several hours with an old Mexican knife maker in Taxco, the silver capital of the world. The shop was very crude and included a hand bellows, charcoal for fuel, an adobe side-blast forge and a grand total of six pairs of tongs. The anvil was a large, round piece of mild steel with a pin welded onto the bottom and inserted into a hole in a stump to hold it in place.

As we worked I was very impressed that with his simplicity and lack of tooling he was able to achieve all he desired. I would like to pass along a few tips I learned in that short time.

1. We were cutting automobile leaf spring to make knives. I was striking while he held the material and cutter. Before the material was cut through he would turn the leaf spring on its edge and motion for me to strike along the edge of that cut portion. This was done as the metal passed into a black heat from red, probably 700° to 900°. The metal would shear along the cut line through the remainder of the material.

2. The knives he makes are very crude, but have a nice finish on them made easier by this tip. The last heat (he never wire brushed anything to keep it clean) was a very dull red and as he removed the material from the fire we plunged our hammers into the slack tub sloshing water on the anvil in the process. As the material was placed on the anvil we started striking with wet hammers, and when we finished working the piece I was amazed at how smooth it finished. The steam evidently separates the filled with old, crankcase oil. Getting the blade hot, he immerses it in oil, point first — instant temper!

3. He makes many long machetes and has solved the oil hardening problem for those long blades by using a 4" pipe with a plate welded onto the bottom of it scale from the metal and leaves a smooth surface.

4. I've seen many Mexican knives with horn handles, but never really gave it any thought, until I watched him work with horn. First, he cuts a steer horn into pieces 4" to 5" long; then he cuts these round sections in half, lengthwise. This gives him a number of half-round sections. I simply could not believe the next step. He easily flattened these half-round sections by laying the pieces of horn on the forge fire and turning each one frequently. As the horn got hot he removed it from the fire, placed it between two pieces of ½" plate, clamped it in the vise and presto! — instant flat sections of horn to make his handles with (these flattened sections should remain clamped until they cool).

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President’s Message

Well, with Christmas behind us, all that is left is to figure how to pay for it. At least we have a year to do it. We had a great Christmas, and hope that you did also. Membership for December totaled 38 new members and 17 renewals, not bad for what usually is a slow month. Ruth Cook has sent out 68 past membership surveys in an effort to determine why some members have not renewed their membership in ABANA. Past surveys did not pinpoint any particular reason for non-renewal; seems that people like blacksmithing or they don’t.

Fred Caylor is working on a membership drive award program which I will report on in the next Message. We have discussed the program at length, and I believe the membership will enjoy being part of it, and the growth of ABANA.

Ruth Cook informs me that her work on the membership list update for the March dues renewal and the election, along with the cross-referenced file and computer listing can only be rated as a big job! Most may not have an idea of all the work Ruth does for ABANA, but it is substantial and she works far more hours than you would guess. One thing that keeps her going is the kind “Thank You” notes she receives from the membership. We all need these from time to time to keep the job from running over us, and she deserves all the “Thank You” notes that she can get.

I hope you have noticed the new ABANA brochures that are going out. So far we have distributed over 5,000 of them and notice quite a few of the new members are using the application printed in the brochure. If you need more for your activities, please contact Ruth Cook.

Of interest to those of you teaching blacksmithing for a fee, some are including in the cost of the course, a Student Membership in ABANA. This allows the student increased access to blacksmithing and most continue their membership in ABANA.

ABANA has received the proper documentation from Robert Fredell, President, Guild of Metalsmiths, 3500 45th Avenue South, Minneapolis, MN 55406, requesting it become an ABANA Chapter. ABANA welcomes Bob and the approximately 275 members of the Guild of Metalsmiths. We are pleased that you chose to join us and look forward to many good days of blacksmithing with all of you.

I am sorry to announce that Lynn Fieldhouse is no longer able to continue with the “ABANA Update” which she has done so well. Lynn was able to furnish up to fourteen pages of metal-related events with dates and descriptions of the projects planned. She produced the “ABANA Update” monthly and it was distributed to the Chapters for use in their newsletter. Unfortunately, the “ABANA Update” was not used by the newsletters and information was not distributed to the membership. This, coupled with the time, effort and cost of producing the “ABANA Update” has caused us to re-assess its value. We would welcome your comments and suggestions on how we may better advise the membership of up-coming events. ABANA wishes to continue the program, but will need the help of the chapters if it is to succeed.

Notice to all groups wishing to host the 1986 ABANA Conference, it is time to start planning! The Anvil’s Ring is under full steam directed by Robert Owing and Kathleen Hogue. They have set up the new office and are hard at work on the next issue. We look forward to their first issue in March, 1986. Take some time and send in an article; I know you would like to see it in the Anvil’s Ring. Note — articles do not have to be typed! We have received them on cardboard boxes, paper bags and anything else that was handy. Robert and Kathleen will take care of the typing, spelling, smudge marks and coal dust, so send it to them.

If you have not purchased your 1986 ABANA calendar, see your chapter officers, or contact Bill Callaway for your copy. Calendars are $4.00. I ask you to note the combination swage block and mandrel shown on the July page of the ABANA calendar. Several people have asked about it; I have never seen one and the few people that I have asked have never seen one. Can anyone give us any further information on this subject? Also, who has them for sale?

I must comment that the newsletters I am receiving are showing a lot of work by the editors and staffs. I and all others appreciate your efforts. Please, keep up the good work!

Again, Bill Gichner has made a tremendous donation of books to the ABANA office collection. We all appreciate his generous donations that will some day be housed in the permanent ABANA offices and museum. It is only a matter of time and money. I believe in it, and with people like Bill helping, it will be a reality before we know it.
Ruth Cook and I traveled to Birmingham, Alabama for the Birmingham Blacksmithing Festival, held at Sloss Furnaces Historical Site. Eighteen smiths signed up to participate in a project directed by Glenn Gilmore, Resident Smith, John C. Campbell Folk School, Brasstown, N.C. Glenn's sculptural project was massive, and the smiths worked as hard as they ever had to move the heavy iron. Three inch bars were drawn out to 8' in length under John Beckwith's 200 lb. hammer, 2" bars were necked down and drawn out to ¼", and 3" bars were made into a 12' circle and punched under the hammer 8 times to form the 1½" holes (yes, through three inch!). And everyone learned a few things **not** to do when handling pieces that weigh much more than you do. Nine 6" x 1½" dimples had to be put into ½" plate 6' in diameter. Five smiths had a ball heating and triple striking to perform this feat (not to mention the high DB rating of hammering on this plate)!

The work progressed well with the high heat from the many forges, and the high temperatures of the day brought out the best in everyone. The teamwork was great as the smiths accepted the tasks given them, and then proceeded to make every piece to the proper form. Later, it all went together well.

Blacksmiths using two power hammers, four forges and more blacksmithing equipment than you have ever seen, made quite a show for the many people of Birmingham came to see what was going on. I will not attempt to list all eighteen of the smiths who worked on the project, but will say to each of you that you did blacksmithing proud that day and I salute you for a job well done.

Many thanks to Randy Lawrence and Paige McWilliams of Sloss Furnaces for making this a memorable day for all of us. My hat is off to Glen Gilmore for his excellent direction of the project, and many thanks to John Beckwith for the use of his shop.

The ABANA Board of Directors and I are seeking ways to better ABANA for its membership. If you have any ideas or suggestions, by all means contact us. ABANA is all of us working together for each other; we need your help to see that all members get the maximum benefit from belonging to ABANA. Your comments will be most appreciated.

We have much to do to get blacksmithing before the public, and to make them realize that we are for real, and willing to be a part of the great revival in iron work in architecture. Architects are begging for the creative mind of the blacksmith; ABANA works to put the two together. Let's all work to see that blacksmithing is on everyone's mind, and that we are not put into that category that makes only bar-b-que forks and fire pokers. Think about it — we're better than that!

Due to the expanding work load while trying to do my best as ABANA President, I have resigned as President of the Tullie Smith Blacksmith Guild, ABANA Chapter, Atlanta, Georgia, effective October 25, 1985. It was my pleasure to serve as President for six and one-half years, and during that time I had the support and help of the finest people in blacksmithing; I was never alone. Being president of the Tullie group was the experience of my life, and as I explained to them, I learned a lot more than I ever taught them.

I want to express my deep appreciation to the members of the Tullie Smith House Blacksmith Guild for their work and presentation of the 21 x 9 inch, wooden anvil with the brass plaque inscribed "STAN STRICKLAND in appreciation for outstanding service as president of the Tullie Smith House Blacksmith Guild, 1979-1985". Thanks, guys! Some of the best things in life happen when you least expect them.

The above experience has caused me to assess the great responsibility that I, and all in blacksmithing with a role of responsibility have to our membership. No matter if you are elected, appointed or how you come to a position of responsibility (as an officer, board member, demonstrator, or any of the other positions that you put in front of the membership), you have a tremendous responsibility to respond to the best of your ability. The membership of ABANA, the chapters and the associations have the right to expect the best from us. Should we fail to give our best, we fall under the words of an old saying, "A half-done job is the mark of a man only half as good as he thinks he is." The membership deserves the best we can give, and we each will be a better person for having helped someone along. "Leadership is the process of helping other people to do the worthwhile things they want to do." (unknown). What have you done for blacksmithing today?

Stan Strickland, president
ABANA
EVENTS

April


May

12-17 First World Congress of Artist-Blacksmiths, Aachen, West Germany (see article in this issue for details).

June

4-7 The American Craft Council is holding an interdisciplinary conference in Oakland, CA to provide perspectives on the future and support of those committed to the viability of crafts and decorative arts in an ever-changing society. Panelists and speakers will discuss new aesthetic directions in the crafts, the marketplace, the motivations of collectors, the crafts in education, the development of the contemporary craft artist and his place in society, and the role of museums in fostering the crafts. For further information, contact: American Craft Council, P.O. Box 30756, Oakland, CA 94604. (415) 272-0600.

EXHIBITIONS & COMPETITIONS

March

24-May 5 "Samuel Yellin, Metalworker" at the Lauren Rogers Museum of Art, Laurel, MS.

June

2-July "Samuel Yellin, Metalworker" at the Minnesota Historical Society, St. Paul, MN.

CLASSES & COURSES

April

6-19 Advanced blacksmithing with Francis Whitaker at the John C. Campbell Folk School, Brasstown, NC 28902. (704) 837-2775.

19-20 Workshop with Bill Senseney at Guilford Handcrafts, Inc., P.O. Box 221, 411 Church St., Guilford, CT 06437. (203) 453-5947.

20-26 Francis Whitaker is holding a workshop to replace the stolen Yellin gate. Contact: Jack Andrews, 1482 Maple Ave., Paoli, PA 19301.

28-May 3 Advanced gate building with Francis Whitaker. Contact: Emmert Studebaker, 6555 South State Route 202, Tipp City, OH 45371.

May

5-10 Missouri Blacksmiths master class workshop with Francis Whitaker. Contact: Don Asbee, Route 2, Hwy. 28, Bland, MO 65014.

17 Workshop with Merritt Cleaver at Guilford Handcrafts, Inc., P.O. Box 221, 411 Church St., Guilford, CT 06437. (203) 453-5947.

June

2-6 Blacksmithing with Ira DeKoven at Penland School, Penland, NC 28765. (704) 765-2339.

21-22 Workshop with Bill Senseney at Guilford Handcrafts, Inc., P.O. Box 221, 411 Church St., Guilford, CT 06437. (203) 453-5947.

23-July 4 Blacksmithing with David Brewin at Penland School, Penland, NC 28765. (704) 765-2339.

30-July 11 Beginning and intermediate blacksmithing with Fred Caylor at the Appalachian Center for Crafts, Box 347 A-1, Route 3, Smithville, TN 37166. (615) 597-6801.

July

4-6 "The Hand Forged Tool" with William D. Young, Jr. at Peters Valley Crafts Center, Layton, NJ 07851. (201) 948-5202.

7-11 Knifemaking with Sid Birt at the Appalachian Center for Crafts, Box 347 A-1, Route 3, Smithville, TN 37166. (615) 597-6801.

9 "Power Hammer Techniques" with William D. Young, Jr. (Peters Valley).

12-20 "A Project Workshop" with Carroll B. Bassett. (Peters Valley).

14-18 Damascus with Sid Birt. (Appalachian Center).

21-25 Pattern welding with Darryl Meier. (Appalachian Center).

28-Aug. 8 Beginning and intermediate blacksmithing with Glen Gilmore. (Appalachian Center).
For Sale


#408 Champion Forge, unused (new) complete w/12" #400 blower and half hood; weighs 310 lbs. $1200. Barry J. Steierwald, Box 540, RD 1, Parkesburg, PA 19365. (215) 857-3163

Nazel 512, excellent condition; 800 lb. Erie, 30" stroke; #6 Gardner Denver upsetter with swage and shear, lots of dies; 9" throatless handshear with punch; Quincy 10 hp single phase water cooled air compressor — runs but has noisy rod bearing, less than 100 hours on new HD motor. Wanted: Buffalo 1½ ironworker or equivalent in good condition. Barter spoken. Russ Swider, By Hammer and Hand, Box 111, Rowe, NM 87562. (505) 421-1111.


25# Little Giant hammer, latest model, excellent condition, complete, 220 single phase motor, belt and dies — $1,000. Fisher 500# anvil, 1890 pattern, very good condition — $950. Hot cutters and punches from H13 tool steel, many shapes, reasonable prices, write for prices. Steve Wooldridge, R #3 Box 440, Sheridan, IN 46069. (317) 758-6076.

4140 tool steel, 1⅛" × 2", approx. length 23", approx. wt. 17½ lbs., cold finished annealed. Excellent for trip hammer dies and hand tools. Price: $13.00 ea.; 2 or more $11.50 ea., plus shipping. Tom Muschlitz, 1561 Skeet Club Road, High Point, NC 27260. (919) 454-4366.

Opportunity

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IRONWORK IN ARCHITECTURE

British blacksmith Peter Parkinson presented this lecture at the 1985 BABA Conference in Ironbridge. Concentrating on the Art Nouveau period, the aim of the lecture was to look at the design of the ironwork in relation to the architecture for which it was made. Seventeenth century country house ironwork and Victorian styles, including cast iron, are also shown and discussed. This presentation contains seventy-three slides.

YELLIN WORKSHOP WITH FRANCIS WHITAKER

In March 1983, twelve blacksmiths gathered at the shop of Samuel Yellin in Philadelphia for a workshop led by Francis Whitaker of Aspen, Colorado. The project to be completed was a gate for the Yellin Museum. The workshop was documented in the Amstel "Ring, Volume 11, Number 2. This presentation consists of ninety slides taken by workshop participant Corky Storer. Other participants include: James Batson, Bob Bergmann, Terry Carson, Gary Gilmore, Glen Gilmore, John Lupton, Darryl Nelson, Nd Putnam, Peter Happ, Jeffery Funk and Tom Joyce. Assisting Francis with the workshop were Jack Andrews and Fred Crist. © by Corky Storer

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