MESSAGE FROM THE PRESIDENT

The most important work undertaken by your new president and directors is included in this issue of The Anvil's Ring — the revised by-laws. The revisions are based on ABANA's needs and experiences of the last few years.

They will provide for: I. Regular annual elections, independent of conferences; II. Continuity on the board, with 5 directors elected each year and a carry-over of 10 directors; III. Continuity of officers instead of a complete turnover every year. Work is continuing on chapter by-laws and I have been visiting many parts of the country, talking over the matter with local groups.

Criteria for national conferences are being prepared and will provide a solid basis for locating and planning future conferences. Several directors will visit prospective sites in the near future. The growth of strong, active regional groups, with small, effective demonstrations, will probably change the character of national conferences; perhaps with more emphasis on lectures, slide shows and exhibits.

The I.R.S. has granted ABANA a tax exempt status, and we all owe a vote of thanks to our past directors, officers and attorney for this accomplishment.

I urge you to vote for the new by-laws, and to indicate your preference for the location of the next national conference.

Francis Whitaker

IMPORTANT NOTICE

This issue to the ANVIL'S RING contains material which must be returned to ABANA at your earliest possible. Thank you.

The Editor's Corner

ABANA IS NOT REALLY A SERVICE ORGANIZATION! Sure, a lot of people volunteer their time in the capacity of officers, directors, editors, etc., but the real promise of ABANA is as a SELF-SERVICE organization. A pipeline has been established to nearly 1000 blacksmiths scattered throughout the North American Continent and increasingly around the rest of the globe. Want to share an idea or opinion? We're all ears. Want to ask a question? Here's your chance. Want to send in some photos of what you are doing? Please do (and your photos will be returned after they are used if you wish). We need only look to M. T. Richardson's "Practical Blacksmithing" to see what a spirit of cooperation and contribution will do.

In that spirit, it is editorial policy that the major emphasis of the A.R. will be the exchange of ideas amongst ourselves to help us help ourselves learn as much as we can about blacksmithing. As ABANA grows larger and our conferences, because of logistics, become more awkward to stage, it is logical that the A.R. will be the most conducive manner for us to communicate. If we all contribute to the A.R. we will have blacksmithing to read about and not just ABANA politics or the rantings of a half-mad editor. Personal attacks will be edited out of "Tips and Techniques" and honest criticism only will be allowed if differences of opinion exist (and they will). If you wish to contribute or ask questions under a pen name or initials, go ahead. ABANA's future lies in your hands. The deadline for contributions, queries, book reviews, announcements of activities, ads, etc. for the March issue is January 15 and should be sent to your editor:

Dimitri Gerakaris
The Upper Gates Rd.
North Canaan, N.H. 03741
COMING EVENTS

February 3, 1979 is the target date for the opening of the National Ornamental Metal Museum in Memphis, Tennessee. The first exhibit, “House Jewelry,” will be an extensive survey of both historic and contemporary, architecturally oriented metalworks. They will range from cast brass doorknobs to contemporary garden gates. It is hoped that the exhibit will show the development of decorative metals as an historic, but still viable, aspect of building embellishment.

A number of ABANA members have been asked to participate in the exhibit. They will show a selection of works ranging from door knockers to gates.

Future plans for the complex include the building of a large smithy and foundry on the museum grounds. The smithy will be oriented toward the production of architectural ironworks and the training of new smiths. Plans are to have three forge/anvil setups, two Little Giants, and a Rieter power hammer in the shop.

ABANA members are more than welcome to come and visit the museum, and will get the cook’s tour and reduced admission fee at the door.

For details contact: Jim Wallace, Director
National Ornamental Metal Museum Foundation, Inc.
P.O. Box 13222
Memphis, Tennessee 38113

March 5-9, 1979; Dimitri Gerakaris demonstrates at the West Virginia Crafts Center, Ripley, West Virginia, 25271. A focus on the production of functional items such as hardware, fireplace implements, etc., with time for questions on specific problems on these or other topics. Registration $25 for residents, $35 out-of-staters: Room and board $50-60. Limit of 15 students. Write for brochure; inquiries c/o Tim Pyles.

April (date not yet set): Manfred Bredohl and Ivan Bailey demonstrate at Bailey’s Forge, 221 East Bay St., Savannah, Georgia 31401 (Tel. 912-233-2348). There will, at the same time, be an exhibition of ironwork at the German Cultural Center Offices, Peachtree Plaza, Atlanta, Georgia.

April 6, 7 & 8, 1979: Francis Whitaker and Tom Bredlow, plus some members of the California Blacksmiths Association (CBA) demonstrate at CBA Spring Conference at Sacramento State College.

For details contact program chairman: Michael McCurry, Box 144 Philo, Calif. 95466

April 22-May 5, 1979: Jim Kroepelin, resident smith at John C. Campbell Folk School, Brasstown, North Carolina, 28902 (Tel. 704-837-2775), conducts a two week course in introductory blacksmithing. Limited to 5 students. $65 per week.

May 1-4, 1979: Manfred Bredohl will conduct a workshop under the auspices of the Memphis Academy of Art and the National Ornamental Metal Museum in Memphis. A reduced fee will be available to ABANA members.

Inquiries to: Jim Wallace, P.O. Box 13222 Memphis, Tenn, 38113

May 27-June 9, 1979: Jud Nelson demonstrates the fine art of wheelwrighting at Campbell School. Limited to 15 participants with previous blacksmithing experience.

Spring: New England blacksmiths’ get-together at Sam Facella’s shop (600 Essex St., Lawrence, Mass. 01841). Exact time and program yet to be determined.

For details contact: Sam Facella or David Court
Bay Hill Forge
Northfield, N.H. 03276

July 15-28, 1979: Reggie Smith teaches Gunsmithing at the Campbell School. Class limited to 15 students with previous blacksmithing experience.


(Continued next page)

IMPORTANT BALLOT

Feeling a great need for change and improvement in the present ABANA by-laws, your officers and directors have spent a great deal of time preparing an amended version which appears for your consideration near the end of this issue of Anvil’s Ring. Please register your approval or disapproval on this ballot and mail in an envelope to:

Carl VanArnam
ABANA Secretary
1805 SW 35 Square Pl.
Gainesville, Fla. 32608

I approve______
I do not approve______

IMPORTANT please see the back of this ballot for other important questions.

November 4-17, 1979: Francis Whitaker demonstrates advanced forging techniques. Campbell School.

FOR SALE: Forge, tongs, drill press, oxy-torches, assorted tools.
Contact: Bob Vautier
RFD 1
Worchester, Vt. 05682
802-229-0427

NEW REGIONAL ACTIVITIES
Oregon Blacksmiths Organization.
Contact: Jim Flemming
Yonna Valley Forge
Rt. 1 Box 784
Bonanza, Oregon 97623

West Virginia & Proximity organizational meeting Dec. 10 at Jacksons Mills near Weston, West Virginia.
Contact: George Nichols
Rt. 1 Box 263-0
Weston, W. Virginia 26452

Southern California Blacksmiths Organization.
Contact: Jack Eppich
11908 Montana St.
L.A. 90049
or
George Martin
1660 9th St.
Santa Monica, Ca. 90404

MEMBERSHIP APPLICATION
Fulltime Students ........................................... $10.00 per year ( )
Regular Members ........................................... $25.00 per year ( )
Family Membership ........................................ $30.00 per year ( )
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Contributory .................................................. $50.00 per year ( )

Name
Address
City, State, Zip

ARTIST-BLACKSMITHS' ASSOCIATION OF NORTH AMERICA
P.O. Box 1191
Gainesville, Fla. 32602

CHECK MUST ACCOMPANY APPLICATION
CUT ON DOTTED LINE

Would you be interested in attending a conference if it were held in:
LOCATION
Arizona
California
Canada
Colorado
the Midwest
New Mexico
Philadelphia
the Southeast
Tom Bredlow's
living room
West Virginia
Other Suggestions
YES NO

COMMENT on ABANA's direction, activities, publication, etc., and what you are willing to do about it:

THE ANVIL'S RING,
EXPERIENCED PUDDLER
Sought — NO KIDDING

Jim Garvey and his associates at the Rochester Folk Art Guild in Middlesex, New York are interested in hearing from anyone who has had experience with, or knowledge of, the hand-puddling of wrought iron, and the building of the proper furnace for that operation. They intend to revive the manufacture of that now rare and semi-precious metal — iron. As a starter, they are taking steps to set up a 1,200 pound drop hammer, and are making arrangements for obtaining taconite ore. So, if you have any resources that may be of benefit to their worthwhile endeavor, write to: Jim Garvey, Rochester Folk Art Guild, Blacksmithing Studio, Middlesex, N.Y. 14507. The Anvil’s Ring will keep you posted on their progress. Gentlemen, good luck!

The Ironworks and the Small Power Hammer from Agricola “De re metallica”

ABANA MEMBER RECEIVES NEA GRANT

George Martin PhD of Santa Monica, California is the recent recipient of a $7000 grant from the National Endowment for the Arts to continue his research work with metals; the title of the project is “Aerospace Materials in Art.” One of the materials under investigation is titanium. It has both a promising resistance to corrosion and the ability to hold temper colors in a permanent manner. Object of much confusion, the forging properties of brasses will also be considered. Substitute materials will be sought for wrought iron (i.e., fairly pure forms of iron) and, furthermore, the forging properties of composite materials will also be considered. There is an aluminum and carbon composite, for example, which is very light and stiff. This might allow for the construction of long, arching, self-supporting forms. It appears that many possibilities will suggest themselves from Dr. Martin’s research. Happily for us, he promises to keep us informed of his progress via the Anvil’s Ring. Thank you Dr. Martin and good luck!

Door Knockers by Steve Rosenberg

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December 1978
TIPS AND TECHNIQUES

THE BOX-JOINT  Submitted by Tom Bredlow

A couple years ago, at the conference at Carbondale, Ill., (Iron: Solid Wrought) there was a good deal of excitement over a hinge that showed up in the fireplace set made by Daniel Boone. While I was looking at it I heard a number of comments speculating as to how it was made, suggestions of forge-welding and lots of other mystique, and when I got back home, I tried one, but not without some thinking, not about its mechanics so much, which were evident, but about the work-attitude that surrounded it. The box joint is the hinge that appears in most of the jewelers’ pliers and surgeons’ forceps, and gobs of other applications that have come up over the centuries; its handiest reference being the pliers and what-not of the last century and more, right up to the present. It occurred to me that while Mr. Boone’s use of it as part of the whole package in his fire set was a fine judgement as an element of decoration in an elaborate but nevertheless very nice fire set, (it was the hinge for the firetongs, a slender pair decorated to fit the set, which included acanthus and delightful little scrolls superbly welded in — a crossover hinge and rivet would have detracted) it was not done as a trick used to impress. It seemed to me that it should come from the same attitude as the tools of the same work — that is, learn how to do one in an afternoon and have a bucket full of them by the end of the week. They are, except for Mr. Boone’s delightful application, a hardware store item. Smiths have been filling bins in hardware stores for over a hundred years, anyway, with the sugar cutters, pliers, and so on, which employ the thing as strength and allignment, and while it takes some care, there are too many blacksmiths, Mr. Boone included, who have done them too well to fall for them as mystique or trickery. They’re real. Here’s what I think they are about:

The center piece is shaped to its final shape, but for some filing or grinding, (notice in nearby examples how the parting lines, while usually parallel to each other are less often parallel to the outside edges? Stock removal on the outside after the fit is right) and the outside “half” is forged, split, and opened up so the male “half” will slip through the opening with not much clearance to spare, then, with the center (finished part) cold, and the surrounding, opened part at a good forging heat, it is hammered shut, using the captive center part as the forging core, opening and closing the thing as it is being worked, probably a single heat operation, once they are set up (had to keep filling that bin, you know). Mr. Boone’s box joint if I remember correctly, may not have dressed completely flush all around with all the voids filled, like the round nosed pliers and surgical forceps, but it was just fine, couldn’t be improved upon for the application, and works without benefit of rivet. Top grade for that one, I say, as it was not pliers or forceps he was thinking of when he skillfully included it in his nice fireset. But you can fill out the corners of the thing, with a little work learning the shapes.

Box-joint blank, ready to be made into something. Ends can be made up before closing the joint, if they are complex, but this is the basic idea.
When opening proves to be sufficient to receive male half (it'll do it, no kidding) then ...

take a good forging heat on the female half, insert the cold male half, and forge the female down around it, working the parts as you go so it doesn't forge gorge steps inside, remove any excess so all surfaces are flush, and there you have it. It took me several tries to fill the thing up, but you catch on as you go.

Just a word about application of the thing. There have been a lot of very good looking tools made this way, and some good looking decorative items, as well, but the good ones all have the look in silhouette, from a distance, of something that should have the box-joint as a hinge. They weren't thrown in as mystique — there's certain shapes of things they go with and enhance, both for looks and for alignment and strength. So don't stop at the magic of a box joint — make a package of it, and the fellows who did thousands of the things will thank you for taking part in a real thing.

Basket handle formula, by Francis Whitaker

Courtesy, California Blacksmith Association Newsletter

"My favorite basket handle is the one made of four pieces of \( \frac{3}{4}\)" square, corners knocked off slightly, then twisted, two right, two left. Stock is cut \( 7 \frac{1}{2}\)" to \( 8\)" long, depending on desired size. I find the clockwise final twist fits the human hand best. In order to have the individual pieces come out with about the same number of twists, here is the procedure:

Since the clockwise twists will tighten in the final twist before opening the basket, they must be twisted (I count by quarter turns, it is easier to count the corners as one does the twist then to count full 180 degree turns) six quarter turns. The counter clockwise twists will untighten, so they are twisted fourteen quarter turns. Mathematically, the final result will be six plus four equals ten, and fourteen minus four equals ten. Upset the end to be welded to the tool shank, offset the pairs (they must be one counter and one clockwise in pairs) \( \frac{1}{4}\)" to make the offset scarf I showed you at the Spring Conference.

The final operation is to twist the welded pieces six quarter turns clockwise, then back off two quarter turns while opening the basket, upsetting and opening with a small pin punch to make a symmetrical basket handle.

This is much easier to demonstrate than describe, I'll be glad to show you again some time.'

Excerpted from a letter by Dan Maragni ...

To Make a Knife Hilt — Dan Maragni suggests the use of the following materials and procedures: "It consists of one piece of brass guard sheet (\( \frac{3}{4}\)" thick), one piece of brass spacers sheet, two pieces of fiber spacer (one black & one white), one piece of heavy brass pommel stock. All that is missing for a finished hilt is epoxy and about 20 hours of work.

Here is a rough sketch of how I make my hilts with proper hilt and blade nomenclature:

If I might make some recommendations: 1) Most important fit is guard to shoulder of the blade; I spend 60% of my time on that. It must be tight and absolutely "gapless." Do not silver solder the guard on, you will drag the temper of the blade and ruin it. 2) Give yourself plenty of material to work with, figure on removing 25% of the metal parts and 75% of the wood after the hilt is assembled. 3) Do not scrimp on epoxy; epoxy is relatively cheap — mistakes are dear. Good Luck!

Submitted by Dick Sargent ...

To drill hard cast iron — place iron on forge and heat to bright red-orange with small piece of soapstone over spot to be drilled and allow to cool to black heat over fire ...

To temper small but heavy springs, such as those in pocket knives, wrap spring with coil of iron wire, dip in oil and flash off three times. The wire has enough surface area to hold the oil required to draw the heavier spring ...

Also, to remove a broken tap from a blind hole, you can burn it out easily with a torch. Since the tap is high carbon steel, it will burn out at a lower temperature, leaving the mild steel threads intact. (Be sure to stand a safe distance so as not to be hit by the splatter.)

Rather than marking up the table of the anvil by chiselling on it, I prefer to use a plate on the face of the anvil for that purpose. The table can then be given a slightly convex surface and be used to great advantage such as: when bevelling the edge of a bar, that piece will stay straight rather than bend to the side as it would if this were done on the face. (This tidbit was presented by Francis Whitaker to a gathering of New England blacksmiths last October; other notes were taken and will appear in this column in issues to come. Ed.)

SLIGHT CONVEXITY
Submitted by Tom Bredlow

Ted Morrison (Village Blacksmith, Tucson, Arizona) came up with a very nice solution to a forged band needed to decorate a small patio table that a customer of his needed a pair of, where the band on the one brought in to be duplicated was cast brass. The rest of the table was a good looking 1930's tile top table with hammer texturing on the legs, feet spread by peening or fullering, and corners kept good and full. The overall shape was that of four legs fastened at corners of the square top, held inside the decorated band halfway to the floor, so that the outline was an hourglass shape, with the decorated band at the waist.

The brass strap was flowers or leaves in a running repeat pattern, pierced so that all the individual elements were silhouetted instead of rolled on the surface. The problem: how to make the same table without having to scrounge a compatible brass strip, when, by the time he could have found something satisfactory, he could have made what went with the table he was making and balanced the attitude in the original. Ted won the prize with something I wouldn't have thought of, but knew it was the answer just as soon as I spotted it, and I'm going to borrow it when I get the chance.

The prize-winning solution was, of course, very simple. Ted took a strip of about the same weight as the brass thing, only slightly lighter, and forged it into a very lightly indented channel, working only from the top, so that the top and bottom borders of the pierced brass-work was sufficiently implied, and then, two squares high, made alternately placed square punchings the next level downward, but not through the strap — no holes, and no distortion, in a slim checkerboard fashion all along the strip. Perfect. It is still iron, but graces the table in the same way the brass does the original. The point is, that while there's nothing sacred about using only iron, the brass element was in this case, not the kind of thing that must be reproduced at all costs, either, and the man made a perfectly acceptable copy, so that the pair was effected without having to leave the shop. Brains.

Repairing anvil steel face, by Carl Jennings

Courtesy, California Blacksmith Association Newsletter

Chamfer all hair line cracks. Preheat the anvil to 300°F. If you have to build up more than 3/16” use a low hydrogen (E6016) rod to build up to within 3/16” of final surface. Use the back step method to minimize distortion ie: Start 1 inch from right hand side and weld to right edge, then step back two inches and weld to previous weld and so on. Run stringer beads as opposed to weaving motion. If you have an area larger than 6” move to other parts of buildup to avoid setting up too much stress. Peening with a blunt slag hammer, take your time. The process consists of a lot of peening and a small amount of time at welding. When finished allow to cool gradually in a draft free area. Cover with some material to contain heat. When cool grind to final dimension.

Repairing anvil steel face, by Al Bart

From Peter Ross
of Deer Isle, Maine...

Learned this from Donald Streeter...

Jig for Cold Beading of Staples or Chain Link

Pipe or Sheet

Determine Radius of Bend

Pins will wear if mild steel; use either tool steel or roller to increase effectiveness

THE ANVIL’S RING,
FORGING A SCREW

I would like to share with you some information that was passed on to me by the late Fritz Ulrich regarding the making of a screw by a combination of forging and copper soldering in the forge. Herr Ulrich related how the male and female sections of a screw were formed for leg vises in Germany; an adaptation of that process is shown here in the making of a tap for threading wood (this sequence was photographed by Richard Starr for a book he is writing about threaded wood which is to be published by Taunton Press of Fine Woodworking Magazine; New Town, Connecticut. We thank them for permission to use the photos):

Square stock for the screw is nicked on the hardy and doubled back on itself (1 & 2).

The "slop" is taken out by hammering lightly while rotating the bar. It is sometimes necessary to tighten up the thread by laying it over the far edge of the anvil with the unwrapped bar laying on the face so the edge of the anvil will back up the thread and then hammer in from the end of the thread (5).

The two sections of square stock are fully separated by cutting through where the initial nick was made (6).

This unit is next wrapped hot around a bar (3 & 4).

The two helical sections are unwound from each other (7 & 8). (It is here, if we were making the screw for a leg vise, that we would have the makings for male and female sections, the former to be fixed around a round bar, the latter to be set in a pipe-like structure. Care should be taken to allow for a slight amount of play between the two forms so that a slight imperfection would not jam the works).
Thin copper wire is wrapped around the pieces to be joined which have been fluxed with borax. The right amount of solder to be used is dictated by the amount which capillary action will draw in between the pieces without allowing a runover on the remainder of the piece; a sense of this hopefully comes with experience. (It is a matter of debate whether copper or brass is preferable as the solder. Rather than elaborate further on the pros and cons here, you are invited to send your opinions to the Anvil's Ring) (9).

The piece is joined and a very slightly oxidized surface is touched up with a file (11).

submitted by Dimitri Gerakaris
photos by Richard Starr

The section to be copper soldered is wrapped in clay with a hole poked into it. The clay helps prevent excessive oxidation from scaling the work (this is especially handy for work which is to be clean and delicate, such as lock and keywork). The hole prevents the clay ball from exploding when heated. It once again takes some practice to get the ball hot enough for the copper to flow (the ball is incandescent before this occurs) and yet, not so hot as to burn the copper (blue, green flame from the hole in the clay indicates this has happened) (10).
DON'T TAKE YOUR OWN "TRICKS OF THE TRADE" FOR GRANTED. SOME TIME-SAVING TECHNIQUE THAT YOU'VE BECOME USED TO COULD SHED A WHOLE NEW LIGHT ON BLACKSMITHING FOR SOMEONE ELSE.... IF YOU HAVE ANY QUESTIONS, TIPS AND/OR TECHNIQUES THAT YOU FEEL WOULD BE OF INTEREST, PLEASE SEND THEM TYPED TO DIMITRI GERAKARIOS, UPPER GATES ROAD, N. CANAAN, N.H. 03741.

Dear Membership,

It is a great privilege to be able to serve you as associate editor of the Anvil's Ring. The bulk of my contribution will be drawn from an extensive collection of books and papers related to blacksmithing. The library began in 1970 with Alex Bealer's classic; and, with the help of The National Endowment for the Arts and many friends and fellow smiths, has grown to encompass over 300 volumes in a dozen languages.

The range of topics which relates directly to blacksmithing is so enormous that to adequately touch on each of them will require years of issues. To begin with then, I have chosen four areas of interest: philosophy and lore, shop set-up and maintenance, powerhammer tooling and maintenance, and isolated technical charts and formulas. There is room for more topics for which I am holding off until I get some more feedback from you. Some suggestions could include metallurgy, making anvil tools, basic forging procedures for basic and/or ornamental pieces and photographs of period pieces, to name a few.

To put it another way, my library is at your service through the pages of the Anvil's Ring, but I need your help to make the greatest possible contributions.

Respectfully yours,
Jim Fleming

Jim Fleming dug up this trick in The Value of Science in the Smithy and Forge by William Hutton Cathcart (1916):

**Shrinking Fit for Hoops.**

This last very striking proof of the value of a knowledge of mechanics leads to the consideration of another example in connection with the strength of materials, and also introduces the study of heat. It is most important that a hoop which has to be shrunk on some article should have the proper allowance left in turning in order that it may just be heated sufficiently to permit of it passing over the article, and then when cold giving a compression which is adequate for the desired purpose.

Take as an example a pulley 31¾ inches in diameter on which a hoop has to be shrunk. It is to be made of mild steel 2 inches broad and ½ inch thick. To what diameter should the hoop be turned inside in order to secure a proper shrinking fit?

**Formula:**

When \( d \) is the diameter of the pulley,
and \( D \) the required diameter of hoop,

\[
D = d - \frac{d}{1000}
\]

\[
= \frac{31.25 - 31.25}{1000}
\]

\[
= 31.218 \text{ inches.}
\]

... also in Jim's vast resources, this somewhat older, but very sound, technique for refacing an anvil, from Steel Working and Tool Dressing by Warren S. Casterlin (1914):

**Dressing the Anvil.**

This is of great importance to many country smiths who are in need of anvil dressing, and it may look like a big job to the average smith. Yet, it is comparatively easy. First, I build a large fire with not less than a bushel of coal and good coal. If it has been coked, so much the better. Lay the anvil in the fire face down. Blow lightly, taking at least 10 minutes to bring it up to a red heat. The reason why I take so long a time to heat the face is that if I should drop the anvil in the intensely hot fire and heat as quickly as I could, the body of the anvil would still be cold, which would result in tearing the steel loose. Pack the coal around the anvil so as to keep the heat in, blow a little, then stop for a time, then blow again, and so on until you can get the face hot. When the face is heated evenly, bring it out, set it on the block. If the face is hollow in the center, which it is likely to be, take your flatter, or slick, as it is sometimes called, and with a good heavy sledge work your face down level or nearly so. If it is left a trifle hollow in the center, say ¼ of an inch, no matter. Don't strike it on the side. Take your hot chisel and dress or cut it off as narrow as you want it. That steel face is packed down on the iron solid and even. If it is not welded thoroughly, it will stay there a long time, but if you strike it on the side, it will surely loosen the face. Next measure the width, which must not be level, but full in the center. Lay a straight edge across the face. Let it touch in the center and the cut edges should be ½ of an inch below the straight edge. Have this fullness extend about 1 inches and have the corner next to you quite round, say ¼ of an inch, and have this round corner made so as to fit the round corner in the flat side of the back part of a cold chisel when you are dressing it. The next 4 inches toward the hardy hole should be just a little full in the center, say 1/16 of an inch; the balance of the face clear to the end must be level.

**Hardening Anvils.**

For the corners, bear in mind that the first 4 inches from the horn is finished. Next to this or about in the middle of the face file off the back corner for about 3 inches to a short round, and for the next 3 inches file it off to a straight bevel. This bevel will be found very useful in dressing chisels or other tools when it is necessary to put the bevel on them with hammer instead of filing. Then leave the balance of the face with sharp corners and make both sides of the anvil the same, except the first 4 inches from the horn where the
round corner next to you is a long round made to fit the bit of a cold chisel. Such an anvil face is better adapted to do any kind of work than any other shape. Now we are going to harden this anvil. Before we commence to harden, we will get a barrel — the larger the better — saw it in half; fill half full of clean water with a half bushel of clean salt thrown in it and stir until dissolved. Next get two tubs and fill them with water. Be sure and have plenty of water. I have a big fire and lay two bars of iron on each side of the fire so that the anvil will move easily back and forth through the fire so as to heat the face evenly and the whole length. When the face gets to a low red, take it from the fire, and rub on plenty of pulverized Cyanide of Potassium and Prussiate of Potash, equal parts. Then lay back in the fire and heat to a red heat, not white, but a red. Take it out and drop in this tub of water which we have previously prepared. Drop the face in, say 4 inches. Then stick your arm into the tub and with your hand throw the water up against the face as fast as possible. Have a man then with a pail to dip the water out of the other tubs and pour it in your tub just as fast as possible, so that you have plenty of cold water to throw up against the face, and when you have the face cool, let it down in the tub and leave it there until it is cold. Don't undertake to draw any temper, as there is no danger of getting it too hard. When cold, take it out and rub the face with a brick until you have the face smooth.

Anvils are so cheap these days and so many are making them that it is hardly advisable to waste much time on old, worn-out anvils, as the majority of anvils that were made years ago were faced with a steel of very low carbon and it is almost impossible to get them hard enough. In order to handle the anvil easy, take two bars of iron 2 feet long and fit in the holes in the middle of the anvil. These are called porter bars.

ON INCOMPETENCY

Why did the smith begin to fade away during the earlier part of this century? A selection dug up by Associate editor Jim Fleming from the "American Blacksmithing, Toolsmiths' and Steelworkers' Manual published in 1916, attempts to answer the question in part. This selection is entitled "Incompetency," and reads:

Incompetency

Another reason the smith of to-day is not respected is his incompetency.

When a young man has worked a few months in a shop, he will succeed in welding a toe calk on a horseshoe that sometimes will stay, and at once he begins to think he knows it all. There will always be some fool ready to flatter him, and the young man believes that he is now competent to start on his own hook. The result is, he hangs out his shingle, begins to practice horse-shoeing and general blacksmithing, and he knows nothing about either. Let me state here that horse-shoeing is a trade by itself, and so is blacksmithing. In the large cities there are blacksmiths who know nothing about horse-shoeing, as well as horse-shoers who know nothing about blacksmithing, except welding on toe calks, and in many instances even that is very poorly done. In small places it is different. There the blacksmith is both blacksmith and horse-shoer. Sometimes you will find a blacksmith that is a good horse-shoer, but you will never find a horse-shoer that is a good blacksmith. This is not generally understood. To many blacksmithing seems to mean only horse-shoeing, and our trade journals are not much better posted. Whenever a blacksmith is alluded to, or pictured you will always find a horse-shoe in connection with it. Yet there are thousands of blacksmiths that never made a horse-shoe in all their lives. Horse-shoeing has developed to be quite a trade, and if a man can learn it in a few years he will do well. I would not advise any young man to start out for himself with less than three or four years' experience. Every horse-shoer should make an effort to learn blacksmithing. He will be expected to know it, people don't know the difference; besides this, it will, in smaller cities, be hard to succeed with horseshoeing alone. On the other hand, every blacksmith should learn horse-shoeing, for the same reasons. Therefore, seven or even ten years is a short time to learn it in. But, who has patience and good sense enough to persevere for such a course, in our times, when everybody wants to get to the front at once? Let every young man remember that the reputation you get in the start will stick to you. Therefore be careful not to start before you know your business, and the years spent in learning it will not be lost, but a foundation for your success. Remember, that if a thing is not worth being done it is not worth being done at all. It is better to be a first-class bootblack or chimney sweep, than be a third-class of anything else.

Don't be satisfied by simply being able to do the work so as to pass, let it be first class. Thousands of mechanics are turning out work just as others are doing it, but you should not be satisfied to do the work as others are doing it, but do it right.
Wordsmithing

Those at the Purchase Conference were favored by an extremely well-received opening address by Professor John Finch. Here, for posterity and for your enjoyment and reflection, is the text of that address:

"Ladies and Gentlemen — Members of the Artist-Blacksmiths Association of America — I'd better confess at the beginning that, while I am honored to be here, I'm also amazed, and a little scared. Amazed, because I never in my life, until Dimitri Gerakaris called me last fall, expected to address a conference of blacksmiths. I don't know anyone else who has ever addressed a conference of blacksmiths. To the best of my knowledge, there are no primers or guidebooks on how to address blacksmiths. So I'm amazed to be doing such an unexpected and unprecedented thing. And scared, a little — confounded by your skill. I'm looking forward to seeing some of you demonstrate that skill. But it's already clear that in the presence of hot iron, it is you who are the authorities, not I. For most of my life, I've been a wordsmith, not a blacksmith, and hammered at language, not metal. And what have words to do with the craft we're here to celebrate?

Before I try to answer that, let me say I do have a few credentials for being here. I'll present them, such as they are. They are hereditary, mostly. My father was a blacksmith, who started life over a forge at the iron works in Tuxedo, New York. He didn't stay a blacksmith long; he became a Methodist minister. But when I was a youngster, during summers on an old farm in Mountainville, N.Y., it was my father who taught me, in his own blacksmith shop, all I know of the craft. I began as his helper, of course, turning the fan for the forge or the crank of the manually operated drill press. But eventually the great day came when he stepped back from the anvil and handed me the tongs and the hammer, and I experienced for the first time the sheer, satisfying pleasure of striking glowing metal. Intermittently, and too infrequently, and always as an amateur. I have practiced and loved ironworking ever since.

I asked, what have words — what has language — to do with blacksmithing? Well, for one thing, like all the great crafts, smithing has its own rightful vocabulary. Consider the names of the tools in the blacksmith shop. Listen to some of them: the hammers, ball peen and cross peen, set and flatter, the tongs, link and hoop, horseshoe and hollow bit; the anvil, with its heel and horn and chopping block, its hardy hole and pritchet hole; then the other tools, swage, hardie, mandrel, pickern, cold chisel, scratch-awl, and bosh. And on they go — fine, strong words that clash and clang and pound, or hiss and tap and murmur. It is as if all the sounds of the blacksmith shop have crept into these words, and somehow the sights and smells as well, all to be preserved in language. You'd know it was a splendid craft, without even trying it, just from the splendor of its shop talk.

Then there is the literature of iron work — the mythology and history and poetry of blacksmithing, also preserved in language. I have browsed in that literature, perhaps as a vicarious substitute for the real thing. When you don't have an anvil and a forge handy, you can always read about them, in books like Hogg's *Hammer and Tongs*, Knouth's *The Metalsmiths*, Watson's *The Village Blacksmith*, and all the others.

From even a casual reading of that literature, one realizes that the whole history of man's culture could be written round the blacksmith's role. There were blacksmiths in China two thousand years before Christ; then in India, Phoenicia, Chaldea, Assyria, and Egypt, long before the smiths of Greece and Rome. There are vivid detailed descriptions of the blacksmith's work in Homer and in the Bible. Men worked in copper and gold, silver and bronze for centuries before they discovered iron, and the first iron, men drew from meteorites. For that reason, iron was known as 'The Gift of the Gods' and 'The Stone from Heaven.' And for that reason too, iron was thought to be a magic metal, so even today we count finding a cast horseshoe good luck, and we hang it over our doors, open end up, so the magic won't fall out.

Each ancient culture and each country had a blacksmith god. In Greece it was Hephaestus, in Rome Vulcan. For the Hebrews it was Tubal-Cain; for the Britains Wayland, for the French Galland, for the Germans Wieland. Scandinavian mythology knew him as Volundr, and the Vikings as Thor. In many mythologies, he was a rebel who got himself expelled from heaven; so he went underground to light his forge fires, and the word volcano is derived from Vulcan's name. The Greek Hephaestus was married, by the way, to Aphrodite, the Goddess of Love. In Catholic hagiography, the patron saint of blacksmiths is the seventh century craftsman of Limoges, St. Eloy or Eligius, about whom a wonderful story is told. One day a horse possessed by a devil was brought to him to be shod. The devil made the horse a vicious kicker. So Eligius calmly cut off the horse's leg, and shod the hoof, and then magically put the leg back on. His saint's day is December 1st, which might be an appropriate date for some future ABANA conference.

Moving back from myth and legend to history, we find them everywhere, these blacksmiths, and they seem involved in everything. Pythagoras, the Greek mathematician, is said to have discovered that musical pitch depends on the ratio between the lengths of vibrating objects — the starting point of mathematical physics — by listening to the sounds from his hometown blacksmith shop on the island of Samos, and noticing that iron rods of different lengths gave different sounds when the smith hammered them. In the Middle Ages, master smiths wrought gates for the cathedrals, and in the Renaissance smiths embellished the palaces with hand-wrought iron. When Cortez invaded Mexico he took with his army one entire corps of blacksmiths. There was a smith aboard the Mayflower, and there were smiths on every following ship that brought our ancestors to these shores. When our whalers sailed out from New Bedford or Nantucket, each had a blacksmith aboard, and we recall how on the Pequod Captain Ahab's harpoon, destined for the white whale Moby Dick, was tempered in the blood of his harpooners. And three hundred years ago, blacksmithing even moved into the New England kitchen. An historian, Richard Hart, describes how:

Nailmaking at the kitchen fireside, which occupied the winter evenings of eastern Massachusetts farmers, required but a simple equipment of anvil tools. There was always a supply of nail rods on hand. At a little smithy built within the shelter of the great kitchen fireplace these were brought to white heat, and cut into short lengths with pincers and hammer. Before the iron cooled the individual nails were shaped and headed with a few clever blows. Even the children could help with the
work — the youngest at the bellows, the older boys proud to take the hammer and make the sparks fly.
That’s a charming picture, isn’t it? How much better than the picture of a family of today gathered, inert and vacant, before a television set.
But that’s enough history and literature: — enough to prove my point that from the dimmest reaches of the past, down through man’s culture, the blacksmiths have been everywhere. In war and in peace, in religion and art and science, on sea and on land, in cities and villages and farmhouse kitchens, they have played their part. Enough, too, perhaps to validate an observation that a teacher once made to me, that if you knew all there was to know about any one thing, you’d know all you need to know about everything. If any of us knew all there was to know about blacksmithing, he would be that rarity, an educated man.
Yes, in history the blacksmiths have been everywhere, but where are they now? I suppose the answer is obvious. They are here. But with what justification and for what purpose? In this practical, efficient world of ours, aren’t blacksmiths really superfluous, irrelevant relics? After all, nails and horseshoes, hinges and harpoons, gates and andirons, swords and plowshares are all machine made, stamped out or ground out or churned out, cheaper, faster, more uniformly in factories than in any blacksmith’s shop. Our utilitarian function has been taken from us. Then aren’t we really anachronisms, stubbornly clinging to an outdated craft, laboriously fashioning by hand what can be better made by machine?
The answer, thank God, is no. And the justification for that answer is there in the title of this organization. We are the artist-blacksmiths, intent on making, not nails or plowshares or weapons, but new things of strength and beauty, works in iron which realize and embody the quality of iron, fashioned, not according to blueprints, but according to our private vision. We are artists, and our concern is with the creative act, and in today’s world the creative act is, I submit, no longer an irrelevance, nor a pleasant embellishment, nor an indulgent alternative, if it was ever any of those things, but a necessity. We are threatened with death of the spirit. The act of creation is, quite simply, a tactic for survival.
Let me explain why I believe this profoundly. Our culture here in America as we move toward the 1980’s is characterized, I think, by four ominous attributes: passivity, abstraction, consumption, and plurality. Each of these is potentially lethal, and against each we must defend ourselves. To do that, we must understand each threat. We must meet it head on.
So first, the threat of passivity. The pressures are on us to live life in the passive. In this society of ours, we do not do, things are done to us. We do not act, we are acted upon. We are even afraid to use the pronoun I. Consider the pattern of our lives. We are conceived, we are born. We are weaned, we are toilet trained, we are inoculated. We are sent to school, matriculated, educated, indoctrinated, graduated. We are employed, we are insured, we are taxed. We are promoted or passed over. We are retired, or we are terminated. We are hospitalized. We are buried. It seems that everything, in the dreary syntax of our lives, is in the passive voice. Everything but for the creative act. When we create, we have transcended passivity. When, for example, we shape hot iron on the anvil, we are living in the active voice, where man belongs.

Then the threat of abstraction. This is one of the modern enemy’s keenest stratagems, to transform all reality into unreality, into abstraction, until we seem to move like sleepwalkers among phantoms. I’m thinking not only of such obvious abstractions as actuarial tables, or stocks and bonds, or the GNP, or the other favorite abstractions of the economists; nor of the political abstractions of party and prejudice; but of things closer to each of us. The food we eat has been so processed and packaged that it is hard to imagine any of it as ever actually grown or harvested. We are fed on the glossy abstractions of the supermarket. And we are entertained, not by live actors or musicians or athletes, but by disembodied shadows, and sounds filtered through a mind-boggling technology. The whole spectral abstraction of modern life is epitomized in — permit me one visual aid — Exhibit A — the credit card. Here all the corporal reality of work and wages, of barter and trade, of possession and sacrifice is reduced to the dimensions of a little plastic rectangle. In the culture that produced that, we find ourselves asking, is anything real, tangible, solid? Yes. We move out of the abstract into the concrete when we perform the creative act. When you weld iron to iron, you feel the fine, hard resistance of reality. You are living in the realm of the concrete, where man belongs.
Then the threat of consumption, a threat so obvious that it hardly needs to be described. Consumption has become our ethical imperative. The vast colossus of modern advertising is designed to make us feel guilty unless we consume. Buy, eat, drink, swallow, inhale, wear, drive, turn on, rub on, spray on, discard, replace, use up, throw away; but above all, buy. Buy or be damned. The end and aim of our culture seems to be to make sponges of us all. And so strong is the pressure that, unless we are careful, we yield and join the ranks of the obedient sponges. But perhaps it strikes us that sponges, really, have neither any fun nor any future. Then how do we resist? By the act of creation, for that, in the deepest sense, is producing, not consuming. When we shape iron to conform to our dream, we are sponges no longer. We are makers. We are men.
And, finally, the threat of plurality. The tyranny of the plural is possibly the subtlest threat of all, and it is related to all the other three. If we can be made to stop thinking of ourselves in the singular, to believe that we matter only in the plural, then we will be willingly passive; we will embrace abstraction by joining that great abstraction, the majority; and we will become the ideal consumers. But if we do, it will be the end of us. Emerson warned us almost a century and a half ago, and one of the piths of our culture is that we are forgetting him.
Is it not the chief disgrace in the world (he said), not to be an unit; not to be reckoned one character; not to yield that peculiar fruit which each man was created to bear, but to be reckoned in the gross, in the hundred, or the thousand, of the party, the section, to which we belong; and our opinion predicted geographically, as the north, or the south? Not so, brothers and friends — please God, ours shall not be so. We will walk on our own feet; we will work with our own hands; we will speak our own minds.
You see, work with our own hands. No one understood better than Emerson the curative power of creative labor. And therein lies our defense against the threat of plurality, for there is no such thing as a predictable artist, or an-in
terchangeable craftsman, or a plural blacksmith. The creative act is, by definition, unique and singular.
So, artist blacksmiths, I will end by congratulating you. In a world that seems bent on dehumanizing you, you have found a way to be human. Against the four deadly threats of our culture, you have found your tactic for survival. You are lucky.
Maybe there are truths in the mythology of the craft after all. The legendary blacksmiths were rebels, and they were also gods. Eligius achieved sainthood. And Hephaestus married Aphrodite, the Goddess of Love.”
— John Finch

Professor John Finch is a teacher, playwright, critic, poet and amateur blacksmith. He attended Wesley University and did his graduate work at Harvard. In World War II he served in the Solomon Islands and aboard the Aircraft carrier Yorktown as an air combat intelligence officer. His teaching has been at Dartmouth College in Hanover, N.H., where he was Chairman of the English Department for 9 years. He then moved to the newly formed Drama Department and chaired that for 7 years. His plays, The Wanhope Building and The Downstairs Dragon have been performed in this country and abroad. His father, a Methodist Minister, began life as a blacksmith, and taught his son the craft.

STRIKE WHILE THE IRON IS HOT

You have to be able to think quickly if you want to make it as a blacksmith, and Michael Spencer of Italy Cross, Nova Scotia, had an experience which drove the point home, to wit:
When Michael began smithing in Nova Scotia, he thought to seek out what smiths he could to profit from their experience. One old timer Mike visited had developed the unfortunate reputation of spending as much time with the bottle as with the hammer. During the course of their conversation, however, Mike could no longer resist commenting on this smith’s anvil, which was the most pitted, dented, marshmallow edged thing man has pounded on since the meteor. All he said was, “It looks like your anvil is soft.” The following scene unfolded: “Shoof you shay, I’ll show yu!” Whereupon the elder smith grovelled about the floor for a bull point which he lifted above his head to hurl at the anvil. Against Mike’s protestations, he swung, missed the anvil, and nearly neutered himself. Undaunted, he lifted the point above his head once more and before his excited guest, once again swung wildly toward the anvil. The point this time found its mark and penetrated the face of the anvil a good quarter inch. Excitedly, the smith retracted the bull point from the anvil, and as proud as Arthur with his freshly plucked Excalliber exclaimed, “See, I tempered that point!” (Have any tales like that? How about sharing them with the rest of us.)

A PRODUCT OF NEA BLACKSMITHING WORKSHOP AT SIU

One of the main purposes of NEA workshops is “to encourage artists to devise modes of working together and to test new ideas.” At the NEA workshop held last July 26-August 4 at Southern Illinois University at Carbondale, many ideas and concepts were exchanged, but the most tangible result was this gate, orchestrated by and primarily toiled over by Francis Whitaker. His crew of helpers included to some extent, the majority of those in attendance. It appears that too many cooks did no harm whatsoever to the soup. The gate now resides at the entry of SIU Faner Hall Gallery.

December 1978
REVISED ABANA BY-LAWS
FOR YOUR CONSIDERATION
ARTIST-BLACKSMITH'S ASSOCIATION OF NORTH AMERICA
(A NOT-FOR-PROFIT CORPORATION)

ARTICLE I
Name
The name of this not-for-profit corporation shall be ARTIST-BLACKSMITH'S ASSOCIATION OF NORTH AMERICA. The official abbreviation of this name shall be “ABANA.”

ARTICLE II
Purposes and Objectives
The Corporation is organized exclusively for educational purposes, including for such purposes the following: to encourage and facilitate the establishment of training programs for aspiring smiths; to disseminate information about sources of material and equipment; to expose the art of blacksmithing to the public; to serve as a center of information about blacksmithing for architects, interior designers, other interested groups and the general public.

ARTICLE III
Membership
Section 1 — Qualifications: Any person, firm, school, museum, etc engaged in blacksmithing or allied thereto may become a member.
Section 2 — Categories of Membership: There shall be the following categories of membership in the Association:

(a) A regular member is one who practices blacksmithing as a profession or avocation and is not a student.
(b) A student member is one who is a full time student in an educational institution recognized as such with adequate proof, such as a Bursar’s card, issued by the secretary-treasurer of ABANA. Student membership shall not exceed a period of 2 years.
(c) A family membership is a single membership for a family unit. As used herein the term family unit shall mean husband and/or wife together with any minor children permanently residing with such husband and/or wife.
(d) A senior citizen member is one who has attained the age of 65.
(e) A contributory member is one who elects to pay $50.00 or over for an annual membership.

Section 3 — Membership Qualifications: A person, firm or corporation may become a member by written application on forms provided by ABANA, accompanied by payment of one year’s dues, to the President or Secretary.
Section 4 — Honorary Members: The Board of Directors may elect Honorary Members by unanimous vote of the members present. Honorary Members shall be exempt from payment of any fees whatsoever and shall be entitled to all the privileges of regular members, except the right to vote or hold office. Honorary Membership shall be granted only for exceptional contribution to the purposes of ABANA.
Section 5 — Resignation: Any member may withdraw from the association after fulfilling all obligations to it by giving written notice of such intention to the Secretary, which notice shall be presented to the Executive Committee by the Secretary at the first meeting after its receipt.
Section 6 — Suspension: A member may be suspended for a period or expelled for cause such as violation of any of the By-Laws or Code of Ethics of the Association, or for conduct prejudicial to the best interest of the Association. Suspension or expulsion shall be by a two-thirds vote of the membership of the Board of Directors, provided that a statement of the charges shall have been mailed by registered mail to the member under charges at his last recorded address at least fifteen (15) days before final action is taken thereon. This statement shall be accompanied by a notice of the time and place where the Board of Directors is to take action in the premises. The member shall be given an opportunity to present a defense at time and place mentioned in such notice. The action of the Board of Directors shall be final and binding upon the Association and the suspended or expelled member. Said member suspended or expelled shall forfeit any and all rights of membership on the Board of Directors or any committee, and dues paid.

ARTICLE IV
Fiscal Year
The fiscal year of the association shall begin on the first day of March and end on the last day of February in each year (the start or end of the fiscal year may be different if it does not coincide with the calendar year).

ARTICLE V
Dues
Section 1 — Annual Dues: The Board of Directors may determine from time to time the amount of initiation fee, if any, and annual dues payable to the Association by members.
Section 2 — Payment of Dues: Dues shall be payable in advance on the first day of each fiscal year. Dues of a new member shall be prorated in the second year of membership on a monthly prorated basis from the time of membership to the end of the fiscal year.
Section 3 — Default and Termination of Membership: When any member shall be in default in the payment of dues for a period of three months from the beginning of the fiscal year or period for which such dues become payable, his membership may thereupon be terminated by the secretary-treasurer in the manner provided in Article III, Section 5 of these By-Laws (the period of default should be certain).

ARTICLE VI
Meetings
Section 1 — Membership Meetings: Membership meetings shall be held in conjunction with each ABANA National Conference. Notice of the meeting, signed by the secretary-treasurer, shall be published in the official publication of ABANA, the Anvil's Ring, not less than sixty (60) days before the time of the meeting. All notices of meetings shall set forth the time, date, place and purposes of the meeting.
Section 2 — Special Meetings: Special meetings may be called by the Board of Directors. Upon written request of 20% of the members, the Board of Directors shall call a special meeting to consider a specific subject. Notice of a special meeting shall be mailed to the last recorded address of each member at least 30 days prior to the date of the special meeting.
Section 3 — Quorum: The presence in person or by proxy of 30% of the members of the Association entitled to vote shall be necessary to constitute a quorum for the transaction of business. Only regular members may vote.

Section 4 — Inspectors of Election: Two inspectors of election shall be chosen by vote of the members at the first annual meeting and at each subsequent annual meeting. They shall act as inspectors of election at the next annual meeting and at all special meetings until the next annual meeting.

Section 5 — Voting: Any one member of an organization may represent it at any meeting. Only regular members may vote. Each regular member shall be entitled only to one vote. If the manner of deciding any question has not been otherwise prescribed, it shall be decided by a majority vote of the members present in person or by proxy.

Section 6 — Proxies: Every member of the Association entitled to vote at any meeting thereof may vote by proxy. A proxy shall be in writing and revocable at the pleasure of the member executing it. Unless the duration of the proxy is specified, it shall be invalid after eleven months from the date of its execution.

Section 7 — Order of Business: The order of business shall be as follows at all meetings of the Association, Board of Directors, and the Executive Committee:

(a) Calling of the roll
(b) Proof of notice of meeting of waiver of notice
(c) Reading of the minutes
(d) Receiving communications
(e) Election of officers
(f) Reports of officers
(g) Reports of committees
(h) Unfinished business
(i) New business

Any question as to priority of business shall be decided by the chair without debate.

This order of business may be altered or suspended at any meeting by a majority vote of the members present.

ARTICLE VII
Directors

Section 1 — Number of Directors: The property, affairs, activities and concerns of the Association shall be vested in a Board of Directors consisting of fifteen (15) persons. The members of the Board shall, upon election, immediately enter into the performance of their duties and shall continue in office until their successors shall be duly elected and qualified.

Section 2 — Election of Directors and Terms of Office: Five members shall be elected each year for three year terms. An initial adjustment shall be made at the election following adoption of these amended by-laws to provide for the election of one third of the directors each year.

Section 3 — Duties of Directors: The Board of Directors may:

1. Hold meetings at such times and places as it chooses
2. Print and circulate documents and publish The Anvil's Ring
3. Communicate with other organizations interested in blacksmithing
4. Employ agents and
5. Devise and execute such other measures as it deems proper to promote the objects of the Association and to best protect the interest and welfare of the members.

Section 4 — Meetings of the Board: Regular meetings of the Board of Directors shall be held immediately after the annual election. Notice of the meeting and the agenda thereof, shall be mailed to the last recorded address of each member at least ten days before the time appointed for the meeting. The president may, when he deems necessary, or the secretary-treasurer shall, at the request in writing of seven (7) members of the Board, issue a call for a special meeting of the Board, at least ten days before the time appointed for the meeting. Due to the great distances directors may be required to travel to a meeting, the Board shall have the option of conducting meetings by mail, all decisions to be made by written ballot. Ballots must state the matters to be considered, and must be returned to the secretary-treasurer within twenty (20) days after being mailed to the last recorded address of each member.

Section 5 — Quorum: Eight (8) members of the Board of Directors shall constitute a quorum for the transaction of business. In the absence of the president and vice presidents, the quorum present may choose a chairman for the meeting. If a quorum is not present, a lesser number may adjourn the meeting to a later date, not more than ten (10) days later. Decisions by mailed ballot require an affirmative vote of at least eight (8) members.

Section 6 — Absence: Should any member of the Board of Directors absent himself unreasonably from three consecutive regular meetings of the Board without sending a communication to the president or secretary stating his reason for so doing, and if his excuse should not be accepted by the members of the Board, his seat on the Board may be declared vacant, and the president may forthwith proceed to fill the vacancy.

Section 7 — Vacancies: Whenever any vacancy occurs on the Board of Directors by death, resignation or otherwise, it should be filled without undue delay by a majority vote by ballot of the remaining members of the Board at a special meeting which shall be called for that purpose. The election shall be held within sixty days after the occurrence of the vacancy. The person so chosen shall hold office until a successor shall have been chosen at a special meeting of the members.

Section 8 — Removal of Directors: Any one or more of the directors may be removed either with or without cause, at any time, by a vote of two-thirds of the members present at any special meeting called for that purpose.

ARTICLE VIII
Officers

Section 1 — Number: The officers of this Association shall consist of a president, a first and second vice president and a secretary-treasurer.

Section 2 — Method of Election: The Directors, either in regular meeting or by mailed ballot, shall elect all officers for the term of one year. A majority of the quorum present shall be necessary for an election, or in the case of mailed ballots, an affirmative vote of at least eight (8) members. The four officers so elected, with a fifth director so chosen, shall constitute the Executive Committee.

Section 3 — Duties of Officers: The duties and powers of the officers of the Association shall be as follows:

President

The president shall preside at the meetings of the Association and of the Board of Directors and of the Executive Committee and shall be a member ex officio, with right to vote, of all committees except the nominating committee. He shall also, at the annual meeting of the Association and such other times as he deems proper, communicate to the Association or to the Board of Directors such matters and make such suggestions as may in his opinion tend to promote the prosperity and welfare and increase the usefulness of the Association and shall perform such other duties as are necessarily incident to the office of the president. The president shall be allowed to make committee appointments other than for the Executive Committee.

December 1978
Vice Presidents

In the case of the death or the absence of the president, or of his inability from any cause to act, the first vice president and then the second vice president, in his absence, shall perform the duties of the office of the president.

Secretary

It shall be the duty of the Secretary to give notice of and attend all meetings of the Association and its several divisions and all committees and keep a record of their doings; to conduct all correspondence and to carry into execution all orders, votes and resolutions not otherwise committed; to keep a list of the members of the Association; to collect the fees, annual dues and subscriptions and pay them over to the Treasurer; to notify the officers and members of the Association of their election; to notify members of their appointment on committees; to furnish the chairman of each committee with a copy of the vote under which the committee is appointed, and at his request give notice of the meetings of the committee; to prepare, under the direction of the Board of Directors, an annual report of the transactions and condition of the Association, and generally to devote his or her best efforts to forwarding the business and advancing the interests of the Association. In case of absence or disability of the secretary, the Executive Committee may appoint a secretary pro tem. The secretary shall be the keeper of the Corporation's seal.

Treasurer

The treasurer shall keep an account of all monies received and expended for the use of the Association and shall make disbursements only upon vouchers approved in writing by any member of the Executive Committee. He or she shall deposit all sums received in a bank or banks, or trust company approved by the Executive Committee, and make a report at the annual meeting or when called upon by the president. Funds may be drawn only upon the signature of the treasurer or president if the treasurer is unavailable. The funds, books and vouchers in his or her hands shall at all times be under the supervision of the Executive Committee and subject to its inspection and control. At the expiration of his or her term of office, he or she shall deliver over to the successor all books, monies and other properties, or, in the absence of a treasurer-elect, to the president. In the case of absence or disability of the treasurer, the Executive Committee may appoint a treasurer pro tem. The office of secretary and treasurer may be held by the same person.

Section 4 - Bond of Treasurer: The treasurer shall give a surety bond equal to the amount of accumulated savings and the total current annual dues. A validly executed copy of the surety bond shall be presented to the Board of Directors prior to assuming the handling of the assets and specifically his co-signing of any checks; the cost of the surety bond to be paid by the Association.

Section 5 - Vacancies: All vacancies in any office shall be filled by the Board of Directors without undue delay, at its regular meeting, or at a meeting specially called for that purpose.

Section 6 - Compensation of Officers: The officers may receive such salary or compensation as the Board of Directors determines.

ARTICLE IX

Executive Secretary

The Board of Directors may appoint a person to serve as executive secretary of the Association. It shall be the duty of the incumbent of this position to carry out the daily operation of the Association and to assist the officers in their respective duties and responsibilities. It shall be or his further duty to promote the welfare of the Association, provided, however, the executive secretary shall commit no act which would obligate the Association except as directed by the executive committee. Said executive secretary shall be paid such salary or compensation as the Board of Directors determines.

ARTICLE X

Committees

Section 1 - Executive Committee: The Executive Committee shall appoint such employees including, but not limited to, an executive secretary, as may be necessary to conduct the business of the Association; they may act on behalf of the Association on any matter when the Board of Directors is not in session, reporting to the Board of Directors for its ratification of their actions at each regular or special meeting called for the purpose. Three members shall constitute a quorum for the transaction of business. Meetings may be called by the chairman or by three members. The Executive Committee shall have the treasurer's accounts audited at least once each year by an accountant and report thereon to the Board of Directors. (The size of this Executive Committee may be enlarged to include more members of the Board or other of the Directors.)

Section 2 - Committee on Nominations: Three months before the annual election, the president shall appoint a nominating committee of five members, two of whom may be directors, whose duty it shall be to nominate candidates for directors to be elected at the next annual election. This committee shall notify the secretary-treasurer in writing, at least twenty (20) days before the publishing deadline of the Anvil's Ring next preceding the election, of the names of such candidates. The list of nominees, including independent nominees as provided for in Section 3, shall be published in the Anvil's Ring next preceding the election, in ballot form and mailed to the last recorded address of each member, together with notice of the date of election.

Section 3 - Independent Nominations: Nominations for directors may also be made, endorsed with the names of not less than ten (10) members in good standing of the Association, provided however, that said nominations must be forwarded to the secretary-treasurer by the same deadline as stated in Section 2 above.

Section 4 - Other Committees: As soon as practicable after the election, the president shall, subject to the approval of the Board of Directors, appoint appropriate committees, including but not limited to schools and courses, books, enabling, sources of tools, grants. The members of such committees shall hold office until the appointment of their successors.

Section 5 - Special Committees: The president may, at any time, appoint other committees on any subject for which there are no standing committees.

Section 6 - Committee Quorum: The majority of any committee of the Association shall constitute a quorum for the transaction of business, unless any committee shall, by a majority vote of its entire membership, decide otherwise.

Section 7 - Committee Vacancies: Vacancies on committees shall be promptly filled by the president, subject to the approval of the Board of Directors.

Section 8 - Seal: The seal of the Association shall be as more particularly shown in the following impression.

ARTICLE XI

Amendments

These By-Laws may be amended, repealed or altered in all or in part by majority vote at any duly organized meeting of the Association. The proposed change shall be mailed to the last recorded address of each member at least twenty days before the time of the meeting which is to consider the change.
ARTICLE XII
Indemnification

Section 1: Each person who has been, now is, or shall hereafter be a member of the Board of Directors or an officer of the Association shall be indemnified by the Association to the extent of its treasury funds and as permitted by law against all expenses reasonably incurred by him in connection with any action, suit, proceedings or the settlement or compromise thereof, or payment of any judgement or fine resulting therefrom in which he may become involved by reason of any action taken or omitted by him, provided that such action was taken or omitted in good faith for the Association.

ARTICLE XIII
Dissolution

By two-thirds vote of all the members of the Association, the Association may be dissolved. In such event, the assets of the Association shall be applied by the Board of Directors, or if not by the Board of Directors, by an order of the proper court, to purposes as near as possible to the purpose of the Association as stated in these By-Laws, and in no event shall the assets of the Association be distributed to or inured to the benefit of any individual member.

ARTICLE XIV

The meetings of this Association shall be conducted in accordance with the Robert's Rules of Order then obtaining.

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SMITH WANTED: We are currently looking for someone to work on quality production items and help with commission pieces. Large well equipped shop.

For specifics send resume and photos of your work to: Harvey Brotman, P.O. Box 157, Lyme, New Hampshire 03768.

FOR SALE: Fairbanks power hammer — about 100 lb. 5 HP 550 V. motor. $500. Contact: Steve Nichols, Saugus Ironworks, Saugus, MA 01906. (617) 233-6698.

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Coming Next Issue!

— A hoodless forge with a natural draft that will not smoke up your shop and how to construct one.
— Railing Returns: Francis Whitaker's Super Jig to make it easy.
— Yellin Photos
— A few words on the Medieval Hammer
— Hints on how to photograph Ironwork
— Tips and Techniques
— And, of course, much more.

Remember, all material, be it questions, tricks, opinions, ads, photos, whatever, for the next issue, which shall appear next March, should be received no later than January 15 by:

Dimitri Gerarakis
The Anvils Ring
The Upper Gates Rd.
North Canaan, N.H. 03741

December 1978