N.J.B.A. Newsletter

NJBA Volume 12, Issue 2 08/01/07

Editors Soapbox

Well it's the middle of Summer again and I hope you all try to make it out to the next few events. I know it can be hard to find the time to go to the meets but, it is also nice to take a break for the day, see some familiar faces and learn something new.
Larry Brown, Editor

Upcoming events for 200

Get you calendars out and mark these events down. Please bookmark our web site and check for updated meet information. Remember most of our meets have an "Iron in the Hat" drawing, so be sure to bring something. Meet information starts on this page and continues on page 3.

August 19th—Red Mill Hammer in Hammer in and picnic Coordinators— Robert Bozzay, Eric Cuper, Adam Howard

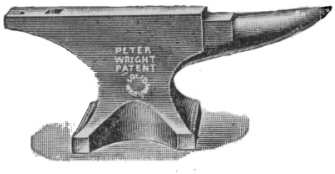
September 1st - Peter's Valley Pig roast, tickets $25 before Sept 1st, $30 after. More info on page 4. Coordinator— Bruce Ringier

September 14th – 16th - Delaware Valley Assn. Engine Show Washington Crossing State Park-Coordinator— John Chobrda

October 7th - Walnford Day We usually do a demo Jeff Morelli?

November 3rd - Randy McDaniel , Demo on wizard and animal heads – Eric Cuper's shop in Easton Pa. Information on page 5. Coordinator—Tim Suter

December ? Holiday Party, Date not confirmed as yet but will be in the next newsletter.



Red Mill Museum in Clinton, New Jersey

ANNUAL HAMMER-IN / TOOL SWAP / NJBA PICNIC

Sunday, August 19, 2007, 10 am till 4 pm
Red Mill Museum Village
56 Main Street
Clinton, NJ 08809
Contact: Bob Bozzay, Eric Cuper, The Museum at (908) 735-4101

See invite letter on page 3!

Activities will include demonstrations, the tailgate tool sale, iron in the hat and the NJBA members picnic! In addition to previous years activities, we are inviting all Smiths who wish to exhibit/sell their work and wares to participate. NJBA members or anyone wishing to tailgate, demonstrate or exhibit, will be provided free admission with preregistration, general admission of $8 for the public.

Participants may pre-register by calling the museum at (908) 735-4101 Bring tools, anvils, or any smithing related items and collectibles, bring your checkbooks, bring your appetites!

Directions;

Take exit 15 on I-78 onto old route 22 going North (Routes 513 and 173), make a left onto main street before bridge. Museum straight ahead.

Notice

We have received sad news regarding our member Jeff Morelli. Jeff has passed away. Any donations NJBA members are able to make to an educational fund for the benefit of Jeffrey's children would be appreciated. "Morelli Children Fund" and sent to Mark Cubberley, 282 Main Street, Groveville, NJ 08620.

The NJBA Web Site!

The NJBA Web Site is up and running at:

http://njba.abana-chapter.com/

The Newsletter is at:

http://
members.bellatlantic.net/
~vze25jcc/index.htm

Official NJBA Address

NJBA
P.O. Box 224
Farmingdale, NJ
07727-9998

Rather than use room in the newsletter, All correspondence between ABANA and NJBA is now being posted on the NJBA web site. If you cannot access it there, contact me and I will send you copies

NJBA Board of Directors

Red Mill Museum Village

56 Main Street, Clinton, NJ 08809

PRESS RELEASE

For Information contact:
Elizabeth Cole, Curator of Education
908-735-4101 ext.102

RED MILL MUSEUM TO HOST ANNUAL HAMMER IN AND TOOL SWAP

CLINTON, NJ—The Red Mill Museum Village is pleased to announce its annual Hammer In and Tool Swap on Sunday, August 19th from 10-4 pm, (rain date August 26).
This event is hosted by the NJ Blacksmith's Association, under the direction of association trustee, Eric Cuper, and our own resident blacksmith Robert Bozzay.
The day's activities will center at the Museum's Blacksmith Shop where local blacksmiths and the New Jersey Blacksmith's Association, a non-profit organization dedicated to the promotion of the art and craft of blacksmithing, will have members on hand to demonstrate and sell their work. Tool dealers and collectors are invited to tailgate, sell and swap their smithing tools and accessories. We are currently registering blacksmiths and tool collectors. Among the items to be found will be anvils, blowers, forges, vises, hammers, and tongs. Should anyone have a "what is it" cluttering up the garage, bring it along and we will be glad to identify it for you. Admission for the day's activities is $8 for adults, $6 for seniors, and $5 for children (6-12). Free for children under 6, museum members and for NJBA members. Included in the price is admission to the Museum's historic buildings and exhibits. The Red Mill Museum Village is located at 56 Main Street in Clinton, NJ. For more information, or to register call the Museum at (908) 735-4101.

Operations and programs of the Red Mill Museum Village have been made possible in part by grant funds administered by the Hunterdon County Cultural & Heritage Commission, made available by the New Jersey State Council on the Arts / Department of State (a partner Agency of the National Endowment for the Arts), the New Jersey Historical Commission (a division of Cultural Affairs within the Department of State), and the Hunterdon County Board of Chosen Freeholders.

Come join the fun Saturday, Sept.1, 2007!!

PETER'S VALLEY BLACKSMITHING

3RD **9-01-07** ANNUAL

PIG IRON FEST

Pig Roast / Burgers /Hot Dogs / Salads / Sodas, Beer & Live Entertainment - Eric Langberg and his Band**!** Auction: Artwork, Tools and More!!
Raffle: 175 lb. Hay-Budden Anvil & Farriers Pattern

Only $30 per person ($25 pre-purchased)
Kids under 12 free!

Presented by
Jimmy Clark, Dick Sargent, Bruce Ringier and the Staff
All proceeds to benefit Peter's Valley Blacksmithing Department Call for details 973-948-2393 shop

1:00 PM Hurricane or Shine

Peters Valley Pig Roast

September 1st NEW DATE

On September 1st Peters Valley will hold its seventh annual Pig roast and fund raiser. Please bring or send pieces to donate to the auction. The cost for the day is $30 ($25 Pre-purchased) with children under 12 free. For more information please call the main office at (973) 948-5200.

Directions to Peters Valley;
Peters Valley Craft Education Center is located at;
19 Kuhn Road. in Layton (Sussex Co.). NJ 07851. (Phone: 20I-948-5200).

From Interstate Route 80 West:
Take Exit 34B to NJ Route 15 North. to US Route 206 North. Left onto NJ Route 560 West. Go through the blinking light in the center of Layton. onto NJ Route 640: go about 2 miles and turn right onto NJ Route 615. Go approximately one mile.

From US Route 209 (on the west bank of the Delaware River in Pennsylvania): Take PA Route 739 South across the Dingmans Ferry Bridge. Take the first right at sign to Peters Valley. Go two miles.

Old Time Engine Show

September 14th, 15th, and 16th

NJBA will again be at the Delaware Valley Old Time Power and Equipment Association's "Days of the Past" Engine Show at Washington Crossing State Park, in Titusville, New Jersey. Come on out and bring the family, there are hay rides for the kids, a metal heads flea market, and a lot to see. We will have a couple of forges going so bring a hammer, also if you have some items for sale we will have a table out. Come on out and join the fun. For more information check out their web site http://daysofthepast.com/

Directions:
The Engine Show is located in Washington Crossing State Park off of Rt. 29 (River Rd.) South of Lambertville and North of Trenton signs are posted to show the way.

October Meet at Walnford Park

We will be demonstrating and holding a membership meeting at Walnford Park on October 7th. Walnford is also known as Crosswicks Creek Park and is in Upper Freehold, N.J
Set-up starts 8:30-9:00, the event is 10:00 - 5:00. We will have the trailer there, so come down and do a little forging and meet with others in the group while enjoying the park and the day. David Macauley will be the contact person and coordinator. This will a "bring your own lunch" event. We will pick up coffee and donuts for the morning. There are places nearby if folks want to pick something up for lunch.

The restored gristmill will be running, and there will be other exhibits, too. NJBA's trailer will be there with our fly and forges but feel free to bring your own if you would like. I do not believe we are encouraged to sell our wares but they sure can be on display, so bring some of your work to put on the table (along with your business card.)

Historic Walnford is the 36 acre Historic District at the heart of Crosswick Creek Park. This country estate and former mill village provides a window to view more than a century of social, technological, and environmental history in Western Monmouth County. The site includes a large home built for the Waln Family in 1774, an 1879 Carriage House, and assorted outbuildings and farm structures. Much of the site's interpretation is connected to the newly restored and operating late 19th century Gristmill.

Directions
NJ Turnpike to Exit 7A, (I-195 east). Follow I-195 to Exit 8 (Allentown, Rt. 524/539). Turn South onto Rt. 539 through Allentown (Rt. 539 requires a left turn where it splits from Rt. 524). Follow Rt. 539 to Holmes Mill Rd. Turn right. Follow to Walnford Rd. Turn right and follow 1 mile to Park.

Rt. 9 to Freehold (West Main Street/Rt. 537 east exit). Northbound, turn left at exit; southbound, turn right at exit. Follow Rt. 537 west to Rt. 539. Turn right onto Rt. 539 west. Follow Rt. 539 west to Burlington Path. Turn left; follow to Holmes Mill Rd. Turn right; follow to Walnford Rd. Turn left and follow 1 mile to park.

Randy McDaniel Demo

November 3rd - Demo by Randy McDaniel on wizard and animal heads – Eric Cuper's shop in Easton Pa. Coordinator—Tim Suter

Mark your calendars!!!

The address is:
1301 Lynn Street
Easton, PA 18042
Any problems finding my shop, call: 908-642-6420 or 610-438-8694

Directions:
Assuming everyone is coming from the east. Get to 78 or 22 west from wherever you are coming from. 78 and 22 merge for a while. Take the last exit in NJ, which is 22 into Phillipsburg. Take 22 all the way through Phillipsburg, through the toll (75 cents) into PA. You are taking the very first exit immediately off the bridge so stay to the right out of the toll. Exit right and stay to the right on the exit ramp and pass under 22 until you come to a stop sign at Larry Holmes Drive. Turn left onto Larry Holmes Drive. You pass McDonalds and WaWa on your left. Take the first left onto Lehigh Drive immediately after the WaWa strip mall. My shop is on the corner of Lehigh Drive and Lynn Street. It is the first white building on the right, my shop may be entered through the green door. Parking is available in front of my entire building and all up Lynn Street but please do not park in the driveway on the left side of my building, it is an active driveway for a delivery company.

You may also take 78 west into PA (also a toll) and take the first exit in PA. I do not know the street names but turn right at the end of the exit and follow the signs for the Crayola Factory/ Canal Museum/ or Attractions. These signs will bring you to a light with McDonalds on your left. Turn left at this light and take the next left onto Lehigh Drive, then continue as above.

Randy McDaniels Biography

Dragonfly Enterprises
Randy McDaniel, Artist, Author, Instructor
in Forged, Lasered & Fabricated Metals

Mr. McDaniel began his journey into sculpture by learning to shape hot metals with a hammer and anvil.

He began his experience in blacksmithing with a class from an 81-year-old blacksmith in 1972. That was the spark that ignited his passion for forging hot metal. Randy also learned from other "retired" smiths, researching the craft in libraries, by taking craft schools classes from various skilled smiths such as Frank Turley, Francis Whitaker and Ivan Bailey, and by participating in blacksmithing conferences. Mr. McDaniel traveled to England in 1987 to participate in the British Artist Blacksmith Association's International Conference in Hereford and to study ironwork in London. In 1988 Randy was baptized as a smith by Manfred Bredhol from Aachen, Germany.

Originally specializing in Colonial reproduction ironwork taught him the basics of forging hot metal. Randy's blacksmithing experience now includes a wide diversity of works that runs the gamut from designing and producing personal and whimsical items from business card holders and furniture to large-scale lighting, gates, grilles, fountains and sculptural pieces. His design and forging of the artwork for the new Children's Garden entrance arbor at Hershey Gardens is an excellent example of his art and whimsy. Besides forging steel he enjoys working in copper, bronze and titanium.

Over the past 30 years Randy's metalwork has been shown at National juried craft and art shows and then in art galleries such as the Pendragon Gallery in Annapolis, MD, Eisonwerks in Manayunk, PA, and more recently at Gallery 20 in West Reading, PA. He has received many "best in show" awards, and has been highlighted in articles in books, magazines, newspapers, and television shows. He is most recently featured in the book, "Lives Shaped by Steel" by Nancy B. Zastrow.

Mr. McDaniel has also gained recognition and acclaim for writing and illustrating "A Blacksmithing Primer, A Course In Basic And Intermediate Blacksmithing". Originally self-published, due to its' success is now being published as a second edition by Finney Books. Blacksmiths, blacksmithing groups and even schools around the world are using this book to teach basic to intermediate forging. This book has also been professionally filmed as a 6 hour video/DVD with Randy's instruction and

demonstration. Besides his book he has written articles for "Fabricator Magazine" on operating a business and the virtues of laser cutting. "The Anvils' Ring" has featured Randy and his works many times over the years.

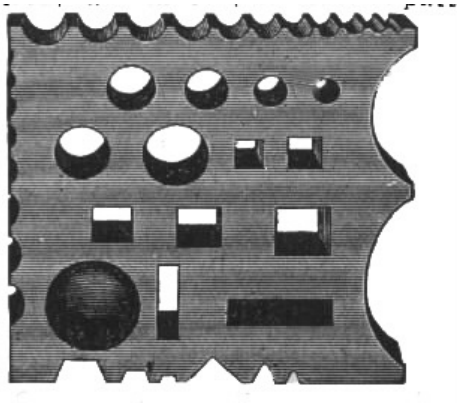
Randy has taught basic and advanced workshops for more than twenty years. These include workshops at the University of the Arts, Philadelphia, PA, Penland School of Crafts, J.C. Campbell Craft School, Appalachian Center for Crafts, New England School of Metalwork, Peters Valley Craft School and for many regional blacksmithing groups from coast to coast. Randy was also a lecturer and demonstrator for the Artist-Blacksmith Association of North America's International Conference at Alfred, New York in 1990 and at La-Crosse, Wisconsin in 2002.

Randy is a member of ABANA-Artist-Blacksmith Association of North America, PABA-Pennsylvania Artist Blacksmith Association, MASA-Mid-Atlantic Smiths Association and a life time member of BGCM-Blacksmith Guild of Central Maryland. He is also a member of the Berks Arts Council.

In the Winter of 2005 he was mentored by a 74 year old sculptor who has taught Randy the intricacies of producing sounding sculptures from bronze, brass, steel and beryllium copper. He is excited about adding his own skills and imagination to this historical art form. He was accepted to the prestigious Philadelphia Furniture & Furnishings Show 2006, which became his first public showing of his new line of works.

"Creating works in metal is a way for me to express a three-dimensional feeling of motion, life and fun. Now I am able to add sound as another aspect of life which produces an interaction between the work and the participant. My whimsical designs perpetuate a lighter heart for all; for myself while creating and for the client over the years."

From his web site;
http://www.drgnfly4g.com



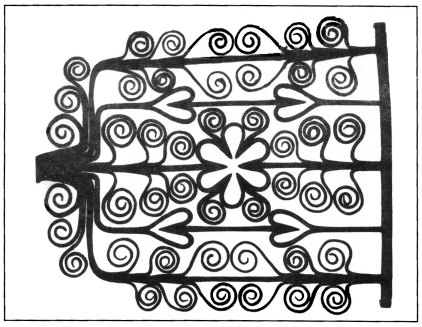
NJBA Holiday Party!

The holiday party is to be held on December 3th at Jan and Marshall's house. Many thanks again, to Marshal and Jan for opening their home to us in the holiday season. Members are asked to also bring various trivets, candle holders, or other holiday items they are making to the party. Despite the emphasis on blacksmithing, members are encouraged to bring their families.
More information in the next newsletter!

Directions to Marshalls' Home:

Marshall and Jan's "cabin" is not on Marshall's farm, but about 3 miles east of it on the same road. Casino Drive is just off Rt. 9, about 3.5 miles north of interstate I. 195 (exit 28). and about 4 miles south of Rt. 33. Either of these routes can be easily reached from the major north-south highways including the Garden Sate Parkway, the NJ Turnpike. 1-295, Rt. 18 or Rt. 34. From Rt. 9 northbound. make a right onto Casino Dr.; southbound. take the jug handle to make a left onto Casino Dr. Continue past Marshalls' Farm to #301 Casino Dr., Howell, N.J.

(ph# 732-938-6577) jlfmib@optonline.net



Mid-Atlantic Smiths Association

MASA METALSMITHING CONFERENCE
September 8-9 2007

At TUCKAHOE Steam and Gas Show Grounds on Route 50 east of Easton Maryland.

Demonstrators are Steve Joslyn from New York and Steve Williamson from Tennessee

Cost $45.00 per person, $35.00 before August 31. Non-blacksmithing spouses and children under 10 free.

Breakfast and Lunch available for purchase at the show grounds. Dinner Saturday will be catered and cost $12.00 per person.

Camping is available on Friday and Saturday nights. Plenty of room for Tailgating and CAMS will be having a Yard Sale on Saturday.

Email me for registration lance @ bentoaks . org

Report On The Forge Hood Workshop

On Saturday May 19th we had a successful workshop. We made 14 hoods as planned. We had about 1 dozen people who showed up - many of which did not buy a hood but donated their time. NJBA would like to thank you very much for your help.

Eight people have bought hoods already - all but 1 have picked up their hood. We have 6 hoods left to sell and they are being stored in one of Marshall's trailers.

The total expense of the workshop was $1,535.23 which included supplies, coffee and donuts for the morning. The stainless Steel sheets were pretty expensive - probably because we bought so few. The total income for the workshop is: $ 1,415. That includes the sale of 3 shirts at the event. So right now we have a net loss of $120, so we are not in the hole by much. We intend to sell the remaining 6 hoods for $200 for folks who did not attend the workshop. For those who did we will offer a $25 discount. If we sell all of the hoods which I think we will, we will have a profit of $1,080 which ain't bad for a day's work. We will bring a few to each event that we have.

Cold Spring Village

Sunday at Cold Spring Village
by Bruce Freeman

Having skipped the first day of this two-day affair, Andy Vida and I arrived Sunday, only an hour late. It was a beautiful summer day, cool and dry with a gentle breeze. I'm not sure what the event was at CSV that day, but it involved kids picking up a "Past Port" at the printers and getting it stamped at each of the several crafts centers (by participating in some way in the crafts), the reward at the end of all of which was an ice cream at the ice cream shop.

Three forges were set up, and David Macauley and Josh were already hard at it. Since there was only one forge free, I gallantly deferred to Andy, who had hooks and tie-backs to make for the house in West Virginia, and proceeded to direct the proceedings from my chair in the shade. (Yet so foul is human character that for this act of gallantry I had to endure the most insidious vituperation and character assassination from the very person most benefiting from my largesse. Naturally I gave as good as I got.)

I took advantage of my relative freedom to wander the village a bit. I noticed that one of the crafters, a young lady set up to marbleize paper, was having a bit of trouble because her table was not level. Since her apparatus consisted largely of a low wooden "tank" containing carageenan-thickened water, this meant the much of the fluid was on one side of the tank, and the other side was high and dry. I soon corrected this by shimming the low side with a few pieces of wood from our kindling supply. I was duly rewarded with a demonstration of paper marbleizing - which seems much simpler than I ever expected.

I also had a chance to observe the comely basket weaver, Patty, at work at her art. She was weaving wooden splints with the greatest of ease into attractive baskets. The trick, of course, is that the splints have to be thoroughly soaked. Although working with store-bought materials, she was quite knowledgeable of the craft, and we discussed things I'd only read about, such as pounding of black ash logs to break off the annual layers which then can be cut into such splints.

Josh, whom I mentioned above, is apprentice to Jerry Goldman, blacksmith of CSV. Under David's guidance, he was working on a scorp. At this stage in its progress, it looked to be a drawknife, which, in a sense, is what it was. But a drawknife remains flat, whereas a scorp ultimately is bent into a partial circle (with axis parallel to the direction of cut). Josh had about two days' effort in this thing already, having had a few problems along the way, but before the day was out the scorp was essentially finished.

David started work on a courting candle, for which he is infamous. I think he failed to finish this piece, however, because a sweet young thing named Nicole stopped by for blacksmithing lessons. Although we took her to be about 16, Nicole turned out to be none other than Josh's older sister, age 22. Despite sandals and summer attire, Nicole completed her first wall hook, with a little help from David, without burning herself.

For my part, I decided to see what I could do with a railroad spike, of which we had plenty due to David's association with the New Jersey Museum of Transportation. I didn't have a clear idea what I was going to do with this spike, but I did decide I needed to isolate the head from the shank by fullering. This was an obstacle because there was no guillotine tool or spring fuller available, and my hand-and-eye coordination is too abysmal to accomplish top-and-bottom fullering without such a tool.

So I made a spring fuller. After an abortive attempt with 3/8" round stock, which was terminated in the spirit of the 4th of July - namely, a couple of sparklers - I started with 2' or 2.5' of half-inch square stock. First I flattened a small portion of what was to become the spring, isolating it 5"-6" from the end by means of half-face blows. Then I worked on the far end (fated to become the upper fuller "jaw," rounding this off to roughly half-inch round. Then I worked down the piece spreading 12" to 1" x 3/16" as the spring portion. Beyond this I spread about 7" of the stock to 7/8" x 1/4". The last 5"-6" I rounded up. Then I folded the 7" segment in the middle and fit it to the hardy hole. Over a few heats, I brought the adjacent round section flat onto the anvil as the lower "jaw" of the

spring fuller. Finally, I bent the spring section into about 3/4 of a circle of 4" diameter, bending the upper "jaw" 90 degrees from the descending arc. The resulting fuller, now amongst the tools on the NJBA trailer, performed very well, but I ran out of time before I could make much further progress on the railroad spike.

Delaware City Day

Kerry Rhoades and John Chobrda hosted a hammer-in and BBQ at Kerry Rhoades shop on July 21st. I had never been to Kerry's shop before so I had a treat to see the way his shop is laid out and all the stuff in it.

My wife had come down with me and we both agreed that a lot of the work in the shop shows a great deal of skill and some pieces show a great sense of humor. There were people from other BS groups there and what appeared to be friends and towns people stopping by to see what was going on in the shop.

Thanks to John and the others who cooked and set up the food and the meet and many thanks to Kerry for setting up the shop to host this event
Larry Brown

Items For Sale

NJBA has been contacted by these individuals as having the following metalworking items for sale, please contact them directly;

I have the following for sale (All very old) (1940's)
Shear (see pic) $100
Welding machines Old A/C (2) $40 each
Drill press (with extra chucks and bits) $500
Corner Bender/Notcher/Manual operated $150
Ford Engine (1920 stored in oil)
Forge- Coal with electric blower $350
Asst Tongs with Forge $10
Beaver (toledo) Bolt and Pipe threader (2" or less) $200
Landis (HUGE) Threader and Bar twister for up to 1" bar $500
Torch cable
Welding Tables (4 x 8 - Qty 2 sliding system) $150
Come alongs/hoists/dollies
Antique scale $175

Thanks,
Ryan ORourke 610-324-1745

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20 years ago I came to NJ from VT where I operated a welding and smithing business. I brought some tools with me with the idea that I might set up a hobby shop here. Alas, it was not to be. Now I'm preparing for another move and am contacting you to see if any of your members would be interested in this equipment. I have:

A 138# anvil, wrought, with a good ring and face. (a perfectionist would reface it)
A 68# post vise, complete and in really good condition.
A Heinrich bench shear, about 3/16 capacity
A quantity of books on smithing & metalworking, both technical & artistic
Assorted issues of "The Anvil's Ring", ca 1980

I don't have a price in mind but if if someone could make good use of it all I'm sure we could come to a satisfactory agreement.
Pete Fink
155 Washington Ave.
Matawan, NJ 07747
Home 732-441-1093
Cell 732-610-2757

Tips and Techniques

When you can't light up the forge - Practice Hammer Control

Learn hammer control by using a board. First, learn to put your hammer print at the same depth, causing a complete hammer mark in the board. Once you've mastered that, learn to tilt your hammer blows to the left, right, forward and heel. Do this until you can do all five steps without thinking about it. This will help you do better work at a faster pace.

Copied from The Forge Fire News Letter - Indiana

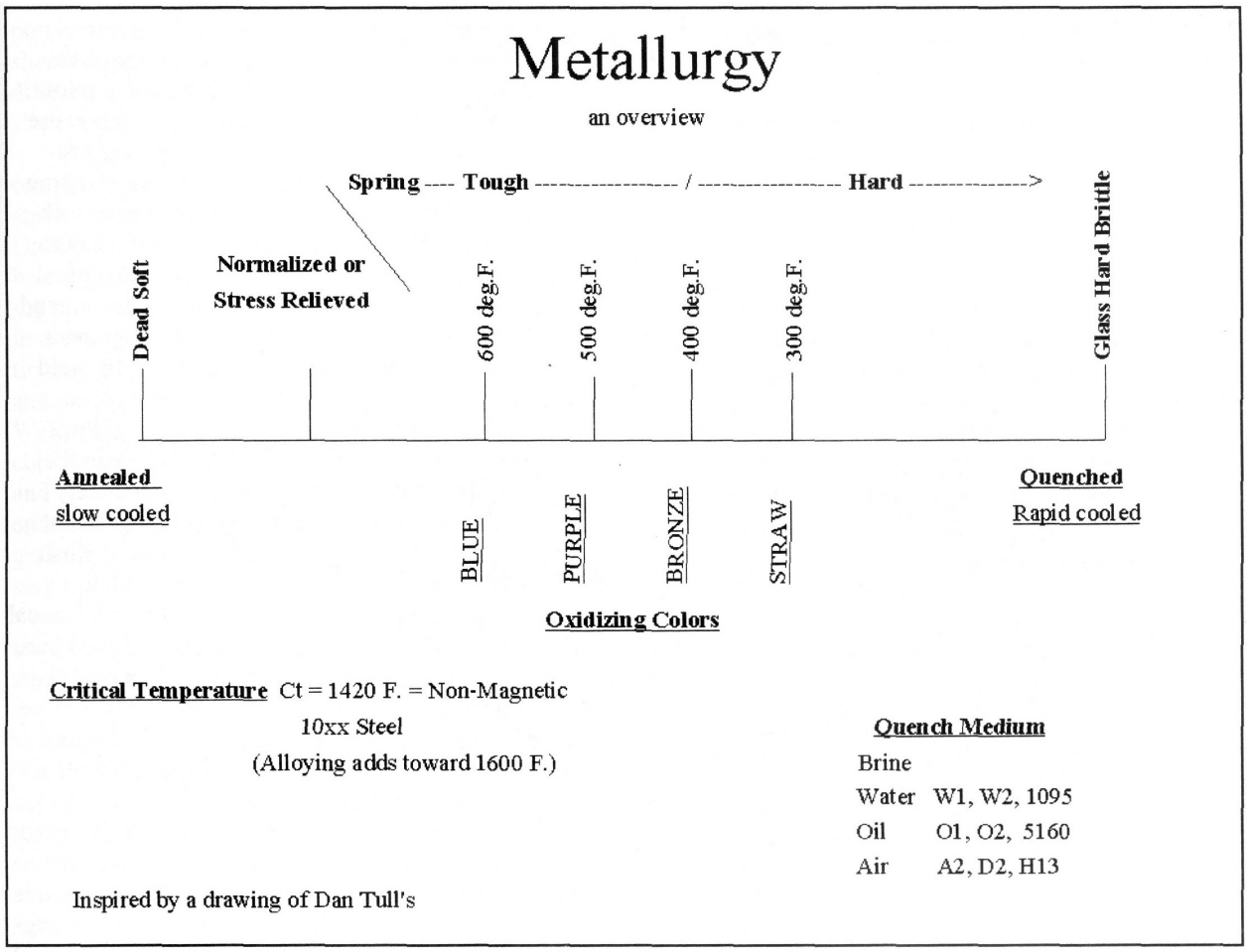
Blacksmith Association Tip written by Fred Oden

How much does an anvil weigh?

If your anvil has three numbers stamped on the side, it has been marked using the traditional hundredweight system. A full hundredweight is 112 lbs. Suppose your anvil is marked with the numbers 3-3-8. The first number indicates the number of full hundredweight, the second number indicates the number of one-quarter hundred weight (28 lbs. each). The last number is actual weight in pounds.

Back to those three numbers -- 3-3-8. They equal 428 lbs.

3 x 112 is	336
3 x 38 is	84
plus 8 is	8
	428



Aluminum Alloys

Aluminum in the:

- 1000 series has a purity level of 99% or higher.
- 2000 series uses copper as its principal alloying element.
- 3000 series uses manganese.
- 4000 series uses silicon
- 5000 series uses magnesium.
- 6000 series uses silicon and magnesium.
-

Supplied by an Assabet student as part of his Senior Project Presentation. His project was focused on welding aluminum and he was planning to join the U.S. Marine Corps to continue his education in fabrication.

New England Blacksmiths 2005

Forging Notes for Non-ferrous Metals:

by Brian E Russell, Forging On The River VIII From the River Bluff Forge Council, Memphis Tennessee

Non ferrous metals are defined as those which have little or no iron in their composition. They include aluminum, brasses, bronzes, as well as the precious metals such as platinum, gold and silver. The non-ferrous metals are generally used in alloy form, being alloyed with elements common to the steels, such as nickel, manganese and silicon. Alloying two different non-ferrous metals to create a third is frequently done as well.

Due to their higher conductivity heating in a gas forge rather than a coal forge provides a greater degree of control over the result. A medium heat rather than a welding heat provides more control as well.

Aluminum

The most commonly available alloy of aluminum is designated 6061-T6. The suffix refers to the level of initial heat treat, with T6 designating solution heat treating and artificial aging. This alloy is referred to as a wrought alloy and has a nominal composition of: .6 Si, .28 Cu, 1.0 Mg, .20 Cr., remainder Aluminum and impurities, always including trace amounts of iron. This alloy is heat treatable.

Forging 6061 -T6 requires considerable attention to the temperature. Forging begins at 750 F and ends at 950 F. As this is below the incandescent range and aluminum doesn't oxide in the same way as steel with temper colors, there is no color indicator during heating. Thus there are a number of methods to determine when the material is ready for forging. A pine stick, such as a paint stirrer or door shim when dragged across the surface of 750F aluminum will leave a black scorch mark. A mark made on the aluminum with a black felt tip pen prior to heating will turn brown in the forge upon reaching approximately 750F. This method seems to have more variability than the pine stick method. Thirdly, there are commercially available "tempilsticks" with highly refined temperature ranges. The pine stick method yields the best results because it requires active diligence in monitoring the temperature. It is very easy to overheat the material, and it is immediately obvious upon beginning to hammer as the material crumbles under the first blow!

Aluminum, because of its unique structure, retains and conducts heat readily. As well, it has a low melting temperature (1220°F). This feature can cause overheating of the work as forging with power progresses. Thin sections can overheat, causing cracking and crumbling. Restraint should be used when working thin sections to ensure that the aluminum stays within the forging range. Gentle heating yields good results when doing scroll work, as aluminum can tend to bend unevenly if not allowed to come to temperature slowly. Again, patience and diligence will yield the best results. Welding aluminum is best achieved with the shielded metal arc process (MIG or TIG). Clean the surfaces by abrasion or wire brushing immediately prior to welding. This is extremely important when welding aluminum. Designate a stainless wire brush specifically for this task. Use 100% argon shielding gas. AC TIG welding is generally preferred for manual welding of material up to 1/2' in thickness. Use a pure tungsten electrode. For DC TIG use a 2% thoriated tungsten electrode. For thick sections MIG welding provides much faster welding with deeper penetration. A spool gun makes it easier, although a short cablehose kept relatively straight (to prevent kinking the soft wire) also works adequately. Refer to a welding manual (see references) for complete information on welding practices. Grinding aluminum is best done with zirconia (blue)discs or specially designated hard discs that reduce loading. Also, belt grease lubricant in conjunction with reduced pressure prevents loading on the abrasives. For die grinding there is a line of special coarser burrs that don't load as much as double cut burrs. Sandblasting and wirebrushing finished works gives an attractive satin finish. The use of solvent dies in acrylic lacquer is another interesting way of finishing. Polished / brushed aluminum should be top coated with a clear acrylic lacquer to prevent surface oxidation.

Bronze

Two types of bronze useful for forging are silicon bronze and aluminum bronze. . Aluminum bronze C954 has a composition of 85 Cu, 4 Fe, 11 Al. It is technically speaking not a true bronze as it contains no tin but is referred to as a binary alloy. Stock for forging is available as continuous cast and hot rolled squares and flats, sold oversize. This material is rather rough looking and the surface has a pattern of very small fissures that disappear upon forging or which can be removed by rough grinding. It is recommended that stock be purchased oversize and forged under power to the desired nominal size. Alloy 614 is the sheet form of Al. Bronze: 91 Cu 7 Al. Its slightly different composition means that there may be a slight color variation between 954 and 614.

Forge aluminum bronze in the red to yellow orange range. It is very forgiving and overheated stock can be allowed to cool without it disrupting. Unlike most other copper based alloys, aluminum bronze is extremely stiff when cold and straightening pieces when cold is problematic. When worked

in the temperature range the metal shows very little tendency to edge cracking when drawn out thin and during hot bending. It scrolls very smoothly. Weld aluminum bronze with A MIG, using Ampcotrode 10 wire (.035) and 100% argon. Higher wire speeds (amperage) and lower voltage than used in welding steel is generally the case. Preheating is usually not necessary except for very thick sections (1.5' .4 The wire is very stiff and can be run in a regular cable hose up to 15'. Joints should be vee' d wider than steel, to around 55-60 degrees. Thinner sections can also be TIG welded using 2% thoriated tungsten electrodes, DCEP and 100% argon. Grinding can be accomplished with the same materials as used for steel. Aluminum bronze is hard enough that loading of abrasives is not a problem. Drilling and tapping requires sharp tools. A dull drill bit will not work on aluminum bronze. Cutting this hard material on a bandsaw requires a higher blade speed (270 fpm) and more. Aluminum bronze accepts patinas, although testing is a must. The polished material has a beautiful golden hue, more yellow than silicon bronze. Flame oxidizing is another useful finishing method.

Silicon bronze, c655. is available in cold rolled forms as bar stock and sheetplate. It has a reddish hue due to the very high copper content (97 Cu, 3 Si). Working temperature range for forging is slightly lower than for aluminum bronze, generally red to bright orange. It will fall apart at too high temperatures. It exhibits excellent forging characteristics, with little cracking in thin sections and bends. Because it is available in plate as well as bar it is an ideal choice for the construction of sculptural forms. Cold bending /straightening is more forgiving than aluminum bronze, but care must be used to prevent cold cracking. Welding is similar to aluminum bronze and an exact matching MIG wire is available. It will work in a standard cablehose. TIG welding (DCEP) with a 2% thoriated electrode is an excellent choice for sheet and plate up to 1/4". Welds flow beautifully. Vee thick joints to 45 degrees. Because of its softer nature silicon bronze grinds easily and quickly with standard abrasives and burrs without loading. It accepts patinas more easily than aluminum bronze, although it has more tendency to change as it ages due to oxidation, Therefore a clear acrylic lacquer topcoat is recommended.

Copper

Pure copper is a joy to forge. It has a very long working range, essentially from cold to yellow. Because of its malleability it is rare for copper to crack during forging or bending. When worked hot there is no need to anneal because there is no work hardening occurring. And when finish working thicker sections cold there is usually no need to anneal. For sheet, anneal by heating through to red, then quenching in cold water. For thin sections cold planishing to work harden effectively adds stiffness and strength. Because of its softness careful planning of the work sequence is necessary to prevent deformation of previously worked areas. Even when cold it is possible to easily bend 1" x1" sections, especially when working in the vise. Copper can of course be soldered or brazed, but these methods lack the strength necessary for joining larger sculptural shapes. Copper can be MIG welded using pure copper wire with a special gas mix tradenamed Blue Shield #5. Preheating is absolutely essential as the copper conducts the heat so quickly and has a high melting temperature (19800 F). For tapping threads into copper a thread forming tap rather than cutting tap works better. Copper can be quite "gummy" due to its softness when machining. When sawing use higher blade speeds (270 fpm) with a coarse blade. Copper is very reactive and receives patinas wonderfully, both hot and cold.

Safety

Welding and grinding non-ferrous metals produce unique pollutants that may have deleterious effects on your body's health. The use of common sense, ventilation and the appropriate safety gear including respirators and safety glasses is essential.

Contact

Brian F. Russell 10385 Long Rd. Arlington, TN 38002 (P) 901-867-7300 (f) 901-867-7843 email: info@powerhammers.com www. brianrusselldesigns.com www.powerhammers.com

New England Blacksmiths 2005

Beginner's Corner

Blacksmith Guild of Central Maryland
By Albin Drzewianowski

Physical Conditioning

As you have come to learn, blacksmithing is a fairly physical activity. Between swinging a 2 1/2 to 3 pound hammer with one hand and tightly holding a pair of tongs with the other hand for a couple of hours can be really hard on the old body; especially if you are a hobbyist who can only forge once in a while. Just like many golfers and tennis players, we are susceptible to the "weekend warrior syndrome". This is a physical problem that afflicts normally sedentary people who go all out on the weekend and then regret it come Monday.

The way to avoid this is to do some exercise during the week, so that when the weekend forging session comes along, your muscles are ready for it. We, as blacksmiths, especially need to concentrate on wrist, arm, and shoulder muscles. I have found that the following exercises have helped me make more of my forging sessions even when they are spread out, less sore muscles afterwards.

Although the following section primarily focuses on the upper body, a complete body physical conditioning regime would not only be good for general health but will add to your blacksmithing experience. Another area that deserves special focus would be the lower back. We are always picking up heavy stuff and a good back exercise program goes a long way to protecting your back. It is really hard to be a blacksmith if you have a "bad" back.

I have found that high repetition with smaller weights is better than a few repetitions of the exercise with heavy weights. I like to use dumbbells for this kind of conditioning. Start with 5 pounds of weights and work up from there. Once you are up to 3 sets of 20 repetitions, increase the weight.

- Military press: Standing or sitting, hold the dumbbells at the shoulder and press straight up. I like to alternate: push right arm up as left arm comes down.
- Triceps extension: Holding a dumbbell straight up over head, bend at the elbow and let the weight come down to the back of the neck, keep the upper arm pointing up, then straighten the arm back up. I like to do one arm and then switch the dumbbell and do the other arm.
- Curl: There are many ways to do this exercise. I prefer to sit on a bench, lean over slightly, rest my right hand on my left knee, then rest my left elbow on my right wrist and then curl the weight up from that position. One full set and then switch arms. This strictly isolates the exercise so that the only thing working is the biceps.
- Wrist curl: Again sifting on the bench I rest my right arm along my right thigh with my wrist just hanging over my knee, palm up. Let the wrist, holding the weight drop and then curl the wrist up. Do a full set and switch arms.
- Reverse wrist curl: The same as the wrist curl but with the palm facing down.

The exercises described above are just a few of the many that will exercise the muscles in question. You could also exercise the same muscles using a barbell instead of a pair of dumbbells. Also there are exercises that use your body weight to strengthen them. The important point is to do some kind of exercise and perform the exercises using good form.

It is important to remember that most muscles operate in opposing pairs: Biceps vs. Triceps, Flexors vs. extensors, etc. So when you do weight training, be sure to always exercise the opposing pairs. If you only work 1/2 the equation, such as only doing curls without doing triceps extensions, you will get out of balance. I have seen pictures of weight lifters/body builders who over did the curls to the detriment of their triceps and they could not straighten their arms.

If any of my descriptions of exercises above are not clear, get hold of a basic weighttraining book and study the sections for exercising the arms and shoulders. Those books usually have good illustrations demonstrating proper form.

Talking about opposing pairs of muscles: We, as blacksmiths, spend a lot of time squeezing/ gripping hammers and tongs. We develop fairly powerful grips. We need to exercise the opposing muscles, the ones in the forearms, which spread open our fingers - the opposite of the muscles that close our fingers and grip the tools. For this, I like to use a heavy rubber band around my fingertips and then try to open my fingers and spread the rubber band. I keep one of these rubber bands by the computer and do this exercise a couple times a day.

This exercise has frequently been recommended in blacksmithing forums to help recover from carpenter's/tennis elbow and from carpal tunnel syndrome. I know it has helped me.

Another helpful exercise is to stretch the muscles, tendons and ligaments in the wrist: Keeping the palm flat, gently bending the palm back toward your forearm as far as it will go. Feel the stretch, but stop before any pain. Bend back and hold for a 20 or 30 count. Do the same with the other hand. Then do the opposite, again holding the palm flat and straight bend forward at the wrist towards the forearm. Use one hand to push the other hand into position. Do 2 or 3 sets. I do these exercises every time I do the rubber band exercises and also before I start forging and often during a forging session while I wait for iron to heat up in the fire.

In general, blacksmithing is a physically demanding hobby. Most of our stuff is HEAVY. A regular exercise program even if just twice a week will prepare our bodies to deal with this kind of physical activity. The more sedentary your "day job", the more you need to consider exercise.

Another problem area for beginners is "soft hands". I see this often in my beginners' classes. By the end of Saturday's class, the student has blisters from hammering or holding the tongs. If you don't normally use your hands as we do when blacksmithing, you need to toughen up the hands. Playing video games or driving a compute doesn't count. I think that working with weights as describe above helps with this. But some other kind of manual activity with the hands is needed to toughen them up to prevent blisters. Here I am somewhat at a loss of what to suggest, but the beginning blacksmith needs to be aware of this and try to find ways to toughen the hands. Forging once or twice a week, even for just an hour or so can help in this regard.

Bottom line: if we prepare our bodies, when it comes time to forge, things will go better.
(If you have any questions about what has been presented in the BEGINNERS' CORNER, send them in and I will answer them in the next issue. Also, looking for future topics for THE BEGINNERS' CORNER. What else would the "wanna-be" blacksmiths like to see explained in excruciating detail??)

Shop Tips

By Albin Drzewianowski

At Blacksmith Days this past May, one of the featured demonstrators. IRON MASTERS, had a really neat idea. They used a gas-miser (see below if you do not know what a gas-miser is) for their oxy-acetylene torch. They had attached a really big magnet to the base of the gas-miser. This way they could attach it to their steel welding table where ever was most convenient. If you use a stand, you could simply have a steel plate attached to the top of the stand and then be able to move the gasmiser from stand to table as needed. I know I will be looking for an appropriately large magnet to use with my gas-miser.
May/June Hammer And Tongs

The Business of Blacksmithing:

Different Views on How to Value Our Work
By Three Different Authors

It was brought up at the last demo that prices possibly should be charged depending upon what the customer could afford, even though the product would be the same.

I disagree with this philosophy. There are different ways to fabricate or forge the same item. The use of tubing and or flat steel without texture is, I think, the simplest of methods. Depending upon the metal worker's skills, these can be very simple or very complex. We all start at a basic level and through practice, practice, and more practice become better, better and better to the point of being one of the best at what we do.

There are a lot of people who can only afford the simplest of metal work. These are the people that give us our "bread and butter" work. They simply cannot afford to spend much money, but do expect the very best from us. They give us our practice years. At this level, we learn our trade through trial and error and repairing our mistakes, (We all make mistakes, no matter what level of ability we have). It takes many, many years for most of us to learn to be good at what we do. If we are very lucky, we get to "rub elbows" with the best in our

trade, and, if we pay attention we will learn from these people. People who can afford better quality and the very best work will seek us out when we always do our best work. More often than not "fancy" will be added to the work and this is when the price goes up. Yes, sometime some of the work is given for free in order to learn more and hopefully, gain a better reputation.

What is the difference between "hot metal work" (blacksmithing) and "cold metal work" (fabrication)? TIME! It takes a lot longer to make a simple 5" foot balcony railing blacksmithing it rather than fabricating it. There are mortise and tenons to make, bar or flat stock to hammer, pickets to create, etc. In simple fabrication most of this is welded together and normally it is not fancy (yes, you can add knuckles, scrolls and other items off the shelf to make it look fancier). It would easily take twice as long or longer to blacksmith this item, and time is money. Most people who would want a totally hand built item are willing to pay for it. If you are trying to sell this customer your abilities to hand forge work and you have sold the same type of piece for a much cheaper price, what is your response when they say "you sold this to my friend for half the price that you are asking of me?" We as metal workers need to treat our customers fairly and honestly. As your skills and quality of work increase, so will your prices. Charge a fair price for a fair day's work.
Jim Sheehan
Metal Worker

Some (Legitimate?) Reasons to Charge More.

What is your response when they say "You sold this to my friend for half the price that you are asking me"? Jim raises a good point. Well, if you are making house jewelry - boxes, mirrors, tables, etc. you might not have much justification for inconsistent pricing. However, for architectural work there are plenty of legitimate reasons for a difference in price. Here are a few.

"Your friend paid for custom ironwork, I won't duplicate it for anyone. However, I can do something similar for you. Something that you will like as well or probably better, and it will be your custom iron, not a copy. The price may be different because the work is different. " If no two jobs are the same, (and they never are) they won't cost the same.

"Your contractor is unorganized, doesn't install blocking, and doesn't have a superintendent on the jobsite to address problems. The last time I scheduled an install for this guy, they were paving the driveway; we had to carry the iron and tools 300' over mounds of dirt. There is no power or inadequate power at the jobsite. Besides that, I have to wait 90 days to get paid. So, when I do a job for this contractor, it costs more."

"You want it in two weeks? It normally takes two months to process a job this size. We can do it, but it will cost more."

"We did that job 5 years ago, our shop rate has gone up, and the cost of material has tripled."

"Your friend and I developed a very comfortable working relationship, I really enjoyed working with them. You, however, are a jerk. I've met with you six times and talked to you on the phone at least twice that. You're eating up all my time with your questions and what- ifs. I'm not having fun dealing with you and if I raise the price enough, maybe you'll go away." Actually, I wouldn't tell the customer this, but my bid would reflect my attitude.

"Yes, I did do that job for your friend for half this much. However, I bid it way too low, I could make more money if I closed the shop and went fishing."

"Your friend's job was ten minutes from my shop and he had 20' of straight railing. Your job is an hour and a half from my shop and you have 60" of curved railing. You're getting a deal."

"When I did their job, business was very slow, we needed the work to keep our doors open. Now we are extremely busy and so is everyone else. I try to pick and choose the jobs that will be successful. Like Harley- Davidson, I'm raising my prices until enough customers are chased away that I can meet production. In fact, you are lucky we are even talking to you." I would not recommend actually saying this either, but this is a pretty normal way of controlling workload.

"That was before I appeared on HG TV's Modern Masters, and was designated a Master Craftsman of the Southwest by Phoenix Magazine. Now I can double my shop rate." (Unlike some we know, I haven't actually been able to give this response and probably never will.) If you have a well de-

served reputation you deserve to be paid accordingly.
Dan Jennings
Professional Blacksmith

The 'B' Word

How much should one charge for a rail or for door hardware?

Should one total the materials, figure a shop hourly charge, guesstimate the hours to make said project, add some for overhead, add some more for profit and then add the pile up for a price?
I think not.

Car repair is figured by the hour. Ready-made replacement parts combine with specialty tools to create a repair environment which can be measured, quantified and calculated. By that measure; the cost of a couple of tubes of paint, a brush and some canvas, plus the hours (times a rate per) gives you the price for a painting or 'marble plus a chisel times an hourly rate gives you a statue'.

If one makes the design and the work at a level of competence which the market will recognize, then we are not talking shop rates and material costs, we are talking job budgets .... budget - the 'B' Word.

A serious client-consumer (often with a legion of architects, interior designers, contractors and family members in tow) will have established or agreed to a budget for the project at hand. Architects cannot specify to a client without knowing both the client's budget ("!!THAT much!??" to "Cool, when will it be done") range and the market range for the work in mind. They establish a budget.

So, when an inquiry about work lands (style and type is defined or a design is sought), the first question is "what is the budget?"

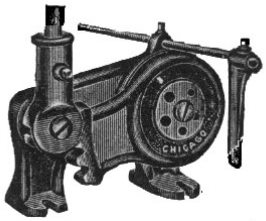
You then talk time frame: "you want it when?" Now, with a dollar figure, a job description and a time frame (faster costs more you can work toward a single, pre-established number and calibrate your work accordingly. More budget allows for more embellishment.

Bidding is a race to the lowest denominator, the low bidder having often lost by winning (they now have the low bid work in shop and have to produce the work for less than you wanted .... pity them). Negotiating is the path to making good work (art) for a good price.

Ask for the 'B' Word next time, every time.
George Dixon
Professional blacksmith and
Illustrator and producer of
The Artist Blacksmith Quarterly

Reprinted from The Anvil's Horn

Macarco Rod Cutter



END OF THE TRAIL BEANS

Submitted for your pleasure by Doug Hawley
(I accidentally cropped where I copied this from, LB, NJBA Editor)
1 can (52 oz.) pork & beans, well drained
1 can (52 oz.) red kidney beans, light or dark, well drained
1'/2 cups onion, coarsely chopped
1 lb. ground beef, browned & drained
14 oz. package of kielbasa, split lengthwise and then into %2-round pieces
1 cup molasses
1 cup brown sugar
1 teaspoon dry mustard powder
1/2 cup ketchup
1 Tablespoon liquid smoke

Dump 1/2 each can of the beans into a crock pot and put 1/2 the remaining ingredients on top of the beans. Add the rest of the beans and pour the remaining ingredients on top. Do NOT stir. Cover the pot and turn it on high until it bubbles. Cut the heat back to low and simmer until it thickens just a bit. Stir before serving.

Notes: This recipe works just as well in a regular pot on the stovetop. The sugar and molasses can be reduced by half, to taste. This dish is always a hit at cookouts and potlucks.

Blacksmithing Workshops and Classes:

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19 Kuhn Rd., Layton, NJ 07851 (973)948-5200
pv@warwick.net www.pvcrafts.org

Academy of Traditional Arts
Carrol County Farm Museum
500 South Center St. Westminster, MD 21157
(410)848-7775 (410)876-2667

Touchstone Center for Crafts
R.D.#1, Box 60, Farmington, PA 15437
(724)329-1370 Fax: (724)329-1371

John C Campbell Folk School
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Louise Pezzi, Blacksmith
1241 Carpenter St
Philadelphia, PA 19147

Open Forges

We are looking for members who are interested in opening their forges up to members as a open forge. This does not have to be a weekly forge as is Marshall's the others can meet once or twice a month. Please contact, Larry Brown, Editor.
We want to encourage all to join us at:

Monday Night Open Forge in N.J.

Marshall Bienstock is hosting an open forge in his shop at 7 pm almost every Monday night (Please call ahead on holidays to make sure , (732)780-0871)

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Starting the 1st Sunday in November until the end of April. Please call ahead to confirm and get directions.
Ron Grabowski, 110 Burlington Blvd. Smithtown, NY
(631) 265-1564 Ronsforge@aol.com

If any members have a forge at home and work in the evenings or weekends and want to open it up to help a few local guys, let me know, Larry Brown, editor, as we get requests from members who have a hard time traveling to some of the open forge locations.

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Join ABANA or Check out other area chapters!

Northeast Blacksmiths Association

Northeast Blacksmiths holds its meets twice a year at the Ashokan Field Campus in New York State.

The Ashokan campus is located in Olivebridge, N.Y., several miles west of Kingston, N.Y. The meets are held the first weekend in May and in the first weekend in October every year. The main demonstration is in the blacksmith shop and there is a "Hands On" workshop for beginners. A main demonstrator is brought in for each meet, food and bunk-house style lodging are provided as part of the cost of the weekend long meet.

Contact : Tim Neu
to register for hammer-ins
or subscribe to the newsletter;
Tim Neu, Ashokan Field Campus,
447 Beaverkill Rd.
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For more information check out the web site; <http://nba.abana-chapter.com/>

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Do you have any particular skills (welder, accountant, carpenter, doctor) that may be helpful to the group or membership?

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Suggestions for PABA demonstrations

What is your skill level?

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PABA Membership Application

Membership is from *Jan. 1 — Dec. 31*

New Jersey
Blacksmiths Association
90 William Avenue
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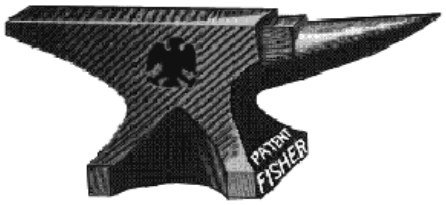
Attn: Larry Brown, Editor

New Jersey Blacksmiths Association



"EAGLE"
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Index For NJBA
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How to Join or Renew your Membership in NJBA:

NJBA Dues are $20 per year.
Please make your check out to: "NJBA"
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Please include payment with the information listed below. You will receive a postcard confirmation of your membership, and will receive a newsletter within a month. NJBA's "year" runs from June to June. If you join mid-year, the postcard will offer a prorated dues option which will then allow you to extend your membership till the following June. The following information will be listed in a roster available to other members.

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