It’s been such a mild winter in ME that the trees out side of the Ball and Chain Forge are all leafed out! (not)

Brentwood North by Bob Menard

This years Brentwood North program hosted by Bob Menard and the Ball & Chain Forge was held on Feb. 25 in Portland, Maine. This years staff included a few returning friends and we were able to feature a Morrell tag team direct from Colrain Mass.

Jon Hodgdon (as in years past, wearing his famous teaching shirt) was back teaching a cabinet handle with spread cusps.

We also had Russell Pope returning. He taught a back scratcher that incorporated punching and drifting, a number of twists and a portion formed by double striking. It was very high energy.

Leigh and Justin Morrell joined us this year. Leigh showed everybody how to create a very lovely flesh fork. Mine is proudly lodged grill side and has been well used already. With Justin teaching a nice compact church key bottle opener. The forged loop at the end was a fun challenge for all.

The day was also a great opportunity for me to unveil my 2 newest gas forge designs. The line now includes both a large professional power tool and a
smaller forge for the hobbyist. Both feature blower driven ribbon burners and in the words of Justin Morrell, "That is one hot box"

In addition to the never empty coffee pot and breakfast goodies, lunch was my signature fire house chili. I know it is a firehouse chili because I made it the day before in the firehouse. I rounded out the meal with fresh wheat rolls and corn bread, cider, lemon squares, and brownies. I am confidant no one started the afternoon hungry.

Between staff, students, and guests I fed fifteen with the appetite of twenty!

A welcome addition this year was Tim Blanchard making an appearance with his son Peter. Tim was able to get in a great shop visit as Peter enjoyed the program.

We were able to finish up close to 4 with most everyone finishing all their projects. The day raised $620.00 for the teaching center.

I would like to personally thank the 4 members who helped out with the teaching stations. They make the program a success. I am also grateful for the members who choose to take advantage of this day long seminar to learn and share. This is why I host this year after year. That and it is the only time my shop get a real nook and cranny cleaning.

Join us next Feb. either as staff or a student. I am always looking for several of each. I still contend that is likely one of the best days spent blacksmithing over the whole Winter for both instructors and students. Just ask, I have references
You may recall that John D'Abate and I tackle a 18th/19th century project each year at the historic Winsor Blacksmith Shop for the Foster Preservation Society during the Foster Old Home Days celebration.

One such project was this 2 armed candle stand, probably from western NY or PA, that was auctioned off the following year.

Claire was not the winning bidder but really wanted to be. This year, she approached me asking if I would consider taking her on as a student so she could make one for herself. Although an engineer by occupation, with no blacksmithing experience, I was afraid this would not work out well and invited her to visit my shop and discuss what such an undertaking would involve. I expected to spend an hour or so explaining how this was not a beginner's project and well beyond her abilities.

She arrived with safety glasses, boots and heavy trousers ready for work! I must add that Claire is "petite", or one might say tiny, but I learned she is a giant when it comes to determination. She was always attentive to instruction, open to suggestion and striving for perfection. In other words she was a perfect student!

So long a session that my wife came out to the shop to see what was going on!

At the end of this introductory session Claire asked, "When can I come back again?"

I sent her home with Lorelei Sims' book “The Backyard Blacksmith” as a reference text. With that question and book, the candle holder story begins.

I spent some time wondering what kind of project would satisfy her need to create and not frustrate us both in the process and came up with what you see here. They are heavy bases so they will be stable on a windowsill or narrow shelf. The design is simple enough for a beginner and Claire chose the option of slightly upset edges rather than an incised line. The drawing calls for 5/16” but we used 1/4” for the handles and it works well. We also used 6d nails for the assembly rivets. The candle cups and “fowl” were cut from 16G sheet metal, not aluminum, from a Home Depot. A combination of tin snips, drilling, a small chisel with treadle hammer and needle files were used to cut them out.

In the end Claire was very happy, pleased with herself and justifiably proud of her candle holders and I was glad for the chance to share what little I know with an energetic student.

You never know where this art/craft will lead you, so keep an open mind!

Fred Mikkelsen
Claire’s Candle Holders with Rooster & Hen
Or embellishment of your choosing

Based on an article from the Appalachian Chapter of Blacksmiths and written by Kit Wattenbarger.

Modifications by Fred Mikkelsen for a student project in Sept. 2011
Blacksmith Toys Aren’t Just for Boys!

From “Forge Fire” newsletter of the Indiana Blacksmiths Association

In this letter to its membership, Jennifer Hayden is asking for volunteers to man work stations at a Girl Scout event where one of the featured activities will be blacksmithing. Might there be interest in New England for such an endeavor?

I found this very interesting, and trust you will too. Fred Mikkelsen

Dear IBA Members,

It’s been a few years since I’ve communicated to you through the IBA newsletter, but I would like to take this opportunity to share some exciting news. I’d like to offer you an opportunity to join me in an event that would combine two very special organizations in both education and celebration.

This year marks the 100th Anniversary of Girl Scouts. As a young scout, I learned that Girl Scouts founder, Juliette Gordon Low, tried her hand at blacksmithing and became proficient enough to fabricate an elaborate gate to honor her parents. A few years later at a Girl Scout event, I had my first opportunity to strike an anvil and make a hook with the help of a museum volunteer. Years later my father, Bill Conyers, began building his own smithy. He shared his knowledge of blacksmithing and eventually introduced me to the IBA. I have since enjoyed years of friendships and learning experiences through the IBA.

Juliette Gordon Low recognized blacksmithing as an art form in the very first Girl Scout handbook and she included it as an option in the Artist badge offered from 1913-1918. From 1938-1948 Girl Scouts offered a Metal badge that required completing 8 out of 18 activities. Some of these activities included understanding the importance of metals in the household; finding examples of metal work in the community; learning the history and creator of each piece; understanding the use and care for tools; demonstrating techniques in metal working; and understanding how metal is transformed from ore and prepared for use.

I’m asking you to join with me in a wonderful opportunity to introduce blacksmithing to our youth. The Girl Scouts of Central Indiana’s 100th Anniversary Celebration will be held on Saturday, April 21st at Camp Dellwood. The event will look at the Past, Present, and Future of Girl Scouts.

The current plan for the blacksmithing area is to offer 15-20 minute repeating demonstrations that briefly provide an overview of blacksmithing (including parts of the anvil, the coal forge, the progression from coal to coke, what is happening on a molecular level as the metal is heated and, of course, mention the connection of Blacksmithing and Girl Scouting, and highlighting the IBA and the satellite groups as a way to continue learning blacksmithing. After the brief demonstration the Scouts would participate by assisting an IBA member in making an s hook or leaf or similar item in gas forges. (Gas forges would be easy to transport and keep metal ready while showcasing another aspect of blacksmithing, and connecting with the idea of past and present.)

Two larger demonstrations (one in the morning and one in the afternoon) would compare the state of blacksmithing and its importance during the time period of the badge (1938-1948) and now.

Both Bill Scheer, Marc Godbout & Neil Mansfield are active in support of the Boy Scouts current Merit Badge Programs that provide opportunities for Blacksmithing with the Metalwork Badge and new Welding Merit Badge. There may be others, among us too that I am not aware of.

Is it something you think you’d like to be involved in? We can help steer you in the right direction!
Samuel Yellin, leaves and leaf stakes

Drawings by Dan Houston
From the Blacksmith’s Guild of the Potomac
The Deer Isle Historical Society asked me to design, forge, and donate two handles for the sliding doors on a new barn built for their growing collection and for public events. The Society provided scant design criteria: the barn speaks for itself. The timber frame is plain and the interior finish spare. The frame was cut from spruce logs harvested here on the mid-coast of Maine. Spruce is utilitarian. The barn's simplicity is elegant.

Samuel Yellin Gothic or Art Nouveau door handles wouldn't do. The handles had to be plain, the Society agreed.

Wanting an appropriate, simple shape for the handles, I thought of the log dog. Log dogs were used to secure logs when hewing timbers, and a variation was used in sets to connect logs for floating them downriver. Log dogs were also used when cutting notches in log cabin logs. Eric Sloane illustrated their use in "A Museum of Early American Tools." Log dogs can still be seen today in hewing demonstrations at fairs, including the annual Common Ground Fair in Unity, Maine.

I scaled down the log dog, making the door handles twelve inches long, instead of 16 - 24 inches long, the body length of "working" log dogs. I used 3/4-inch square stock instead of 7/8-inch stock, and chamfered the handle edges for hand comfort. Log dog "legs" are tapered on the inside.

Making a log dog is an exercise in forging right-angle bends. See "Controlled Hand Forging" under "Resources, Educational" on ABANA's Web site (www.ABANA.org). For those not familiar with the series, "Controlled Hand Forging" is filled with helpful exercises, including quality standards.

There was one especially important criterion for the handles: trouble-free installation. Here's how I got religion on that score. A vendor once sent me a casting in which threaded mounting holes were drilled as much as nine degrees out-of-plumb. Nine degrees! Imagine TV "rabbit ears." When I sought advice from the vendor, he wrote, "You're a clever guy. I suspect you can figure this problem out." No apology, no useful solutions. Finally, I asked the vendor to at least assure me that, in future, they would improve their quality control. No reply. With the crooked mounting holes, installation was a pain in the backside. I don't know which was worse: the vendor's shoddy workmanship or thoughtless attitude. They lost a customer.

So, no matter who is doing the installation, strive for trouble-free. For the barn door handles, trouble-free began with design, followed by careful forging, precise hole location, plumb drilling and tapping, and preparing a wood template to assure the precise location of the mounting holes through the 1-1/2 inch thick doors.
The mounting holes in the doors are the same diameter as the handle attachment bolts (5/16 inch), offering no room for error or slop. A test of the template on scrap wood was successful and the final step in the installation process -- attaching the handles to the doors -- took less than half an hour.

In a lucky chance, I installed the handles on the day of the Historical Society's annual Christmas party, and thus in the presence of an audience and countless confections. The Society celebrated the handles while I celebrated the cookies.

It may have been the affect of the Holiday Season, but as I took a last look at the door handles before heading home, I felt momentary appreciation for the iron-casting vendor's oblique reminder of the importance of careful workmanship and thoughtful customer service.  

Ian Walker

Drawn to the Flame

I first learned how to fire up a coal fire at horseshoeing school. There was a lot of smoke and I had to get away from the forge in order to breath. As the coal turned to coke and the smoke was drawn up the chimney things got better. Now, 38 years later, I find the aroma of a well tended coal-fire gives my brain the signal to go see what's happening.

The sound of a smith and a striker would definitely make me want to go find out who's making what. A hammer hitting hot iron makes a tone that is pleasant. The rhythm makes the tribal in me want to get into the groove and the volume is pleasing to my ear follicles. The slapping sound of a big old leather turning the arbor on a Little Giant is a wonderful sound. The hissing of hot metal being dunked into the slack tub, yeah, I like that too.

Holding a thumb-latch that has a nice surface, is well balanced and operates efficiently. Your eyes could be closed but you hands say “Nice”.

I suppose that the visual aspect of ornamental wrought iron counts too. I'll be watching a movie that is entertaining and all, but if there is a panel with classic design in the back ground, my eyes might check out the ironwork instead of checking out the lovely actress. Rewind is good to go back a bit try and figure the jointing techniques, the weight of the stock, the elements of design. Once that re-winding is done, you could re-wind again view whatever the film was about. My wife and I were at a gigantic Picasso exhibit at the Museo Reina Sofia in Madrid and I exclaimed to her “Holy Ca ca! Look at that “Calder” in the courtyard. I calmed down after a while and we were able go on and see the rest of the Picassos.

There you have four out of the Five senses (I haven't developed an appreciation for the taste of coal yet).

By Taffy Case for New England Blacksmiths
Hello Fred! I was thinking you might be needing some stuff to fill up the newsletter. And I was hoping the deadline is not passed. Seeing as how print time is close and this particular project is unfinished, this will have to serve as Part I.

The scope of the project is to come up with an ornamental iron type business sign. The business is engaged in teaching yoga, selling lifestyle accoutrements with an Eastern/Buddhist focus and providing Reiki type therapy. As is often the case, the customer was quite vague in describing what she had in mind with respect to the actual design of the piece. Nevertheless, I have a reliable method for discerning what might work. The method is simple. Form, Fit and Function. (the three F’s). Function was fulfilled at the outset: an iron sign.

I had to Google around the internet for a couple weeks to figure out what form might be. Er, ah...um..."OM" kept showing up in the searches.

The image at left, is a wood carving which I’ve purchased to use as a model.

So the first phase of the project has become: writing Sanskrit in barstock. (Half round 5/8”).

I made the first set of pieces via sections and parts of scroll forms. It was interesting and fortuitous to find that the lines of this calligraphic representation of “OM” are similar to the lines of traditional scrolls.

Below: The pieces and parts were starting to look pretty good so I back-fit flat bar to the best of each pair in order to achieve consistency and uniformity. (The sign needed to be two sided.)

I now have a pile of parts which need to be chopped, fit together and welded (electric arcing if you don’t mind):

That’s about as far as I’ve got to date and I’ll send the rest of the story as it emerges.

...Charlie Sedell
Thanks, Charlie looking forward to it. Ed.
Videoing your work  by Mark Aspery

My entry level camcorder is a Kodak @ 'Play Sport' HD camera. It costs around $120 for the camera + memory. I take this to demos etc. around the country I also use it as a teaching aid to show a student what I am seeing them do. For my other videos I have a Canon @ HDV camcorder for around $700.

Here are some of the things that I do to create a video. I work alone with the camera on a tripod and use either the record button on the camcorder or a remote to start the recording.

Shooting the hot work is like filming into a bright light. You can expose for the bright bulb and have a black background or you can expose for the background and have the bulb look like a white blur. I try to level out the playing field a little and bring both extremes a little closer together.

On the camera:
Set the camcorder to 'spotlight' mode - The hot steel is like a spot-lit singer; a bright object with a dark background, so why not treat it as such.
Put a 'Neutral Density' (ND) filter on your camera lens.
This is rather akin to sunglasses for the camera. You may need an adaptor to go from your camcorders screw-in filter size up to the available filter size. My camcorder has a 37 mm screw thread, but my ND filters are 49mm. I have a 37 to 49mm adapter. I use a ND #2 filter - sometimes a #4. I also place a clear filter on the camera to protect the lens and other, more costly, filters from damage from sparks, scale etc.
Set the 'White Balance' on your camera. Consult your owners' manual on how to do this. It is well worth doing as it sets the camera up to read colors accurately when recording.

In the forge:
Flood the filmed area with light. You cannot over-expose the hot steel, but you can better illuminate the background. Doing so brings the background exposure levels closer to that of the hot material. I use daylight florescent bulbs. In fact I have 'Husky' work-lights from Home Depot. These are 65 watt florescent bulbs which are daylight rated 6500K (equivalent to a 3Oo watt incandescent bulb) on a tripod stand for $60.00 including the California Governor's cut. Of course you get what you pay for... I have three of these arranged around the hot work.
Home Depot #s Model # 637-152 Store SKU # 637152.
These lights can be used for your still photography as well. You have to tweak them a little to make them face down, but nothing too major is required. Make sure that any background is not going to distract the viewer.

Sound:
I have an external mic for my videos, but I don't think that is always necessary. Don't compete with tools and equipment for attention. Keep any descriptive dialogue separate from the work and turn the sound down on the forging sections when editing.

Frame the video:
Get close to your work if that is what the video is about. Zoom out if you want to show a body position, technique or piece of equipment. Panoramas of someone forging in the distant background aren't going to help support your written article much.

Editing:
Give the film a title and credits - see instructions below.
Don't use fancy transitions from one clip to the next - teddy bears somersaulting across the screen to bring in a new clip can be a bit distracting.

I use an Apple/I-Mac computer with I-Movie as my editing software. ADOBE has a video editing software package called Premier elements for a Windows platform. Other editing software comes with some camcorders.

From The Anvil’s Horn, Arizona Blacksmiths
Nice Mice

From The Upsetter newsletter of Michigan Artist Blacksmiths by Steve Anderson

Stock Size: 3/4” round.

Forge a short, 3-sided taper about 1” long.

Fuller top and sides to form the neck using a narrow fuller.

Use a 1” ball pein hammer to spread the body in a 1-1/4” swage. Hit only at the “X” and the body will lengthen by itself.

Rats are made by lengthening the area you strike.

Fuller top and sides at the end of the body to isolate material for the tail. Then cut off the extra leaving about 3/4” of the stock for the tail.

Forge the tail to 5/16” square, then bend so the tail can be held in the vice with the body resting on the jaws.

File a notch where the ears will start, then round the nose.

Use a tapered diamond point chisel to lift the metal for the ears. Start at the notch and keep the chisel at 45° to the head.

Lift the ears perpendicular to the head using a tapered round chisel. File the area in front of the ears to round off the head.

Form the eyes horizontally to the head using the eye punch.

Forge the tail out. Cut to length and bend to a pleasing shape. File to clean up unwanted forging marks, wire wheel and clear coat or use hot wax to finish. The mice can be made in other sizes from 1/2”, 5/8” or 1” round stock by sizing the punches to match.

Chisels and punch used for 3/4” round stock.
Welded pipe tong rack as seen in the newsletter of the NY Designer Blacksmiths

Bench Grinder Safety Check

Make sure the manufacturer’s recommended speed, as posted on the wheel, is compatible with your grinder.

Always protect your eyes! Wear only eye or face shield bearing the logo Z-87

Maintain the tongue guard within 1/4" of grinding wheel.

Be sure the outer wheel guard is in place.

Be sure the power transmission cover is securely in place.

Mount the grinder securely.

Maintain the tool rest within 1/8" of grinding wheel.
Effective and inexpensive Respirator   By Dominick Andrisani

I would like to recommend to blacksmiths the 3M 6000 series Low Maintenance Respirator.

This respirator is inexpensive ($12.30 at NorthernSafety.com), has replaceable filters, and has a nose piece that allows my glasses to fit nicely on my nose without interference.

Even more importantly, with the low profile pancake style filters, I can wear the respirator under my Jackson clear full-face shield or under my Speedglass 9000 welding helmet.

As for filters, I suggest the 3M 5000/6000/7500/7800 Series P100 Pancake Filters, (2/Pack at $6.69, 3M 2091). These filters have a minimum 99.97% efficiency against solid or liquid particles, including oil-based particles. There is another pancake filter I will try in the near future (3M 5000/6000/7500/7800 Series P100 pancake Filters w/Nuisance Level Organic Vapor Relief (2/Pack at $9.08).

There are many other filter types available for other applications, although I have not tested these for fit under my face shield or welding helmet. When properly fitted the P100 filters can be used in a variety of applications including welding, brazing, torch cutting, metal pouring, soldering, and exposure to lead, asbestos, cadmium, arsenic, and MDA for concentrations up to 10 times the Permissible Exposure Limit (PEL) with half face pieces or 50 times PEL with full face pieces.

From that BIG Home Improvement BOX store:
3M Tekk Protection Mold and Lead Particle Respirator, Medium
5/5 stars
2 Reviews
$24.97
Price includes shipping
Description:
The 3M P100 Half-Face Mold Remediation and Lead Abatement Respirator Kit helps prevent exposure to mold, spores and odors. The face mask is made of soft, lightweight material making it easy to breath.

From the 3M website:
3M personal protective equipment sold through Shop3M.com is only intended for US occupational workplace use. This 3M personal protective equipment must be used in compliance with the Occupational Safety and Health Administration (OSHA) Personal Protective Equipment (PPE) standard (29 CFR 1910.132) and all other applicable health and safety standards, as well as all user instructions, warnings and limitations accompanying each product. It is essential that all product user instructions and government regulations on the use of each product be followed in order for the product to help protect the wearer. Misuse of personal protective equipment may result in injury, sickness, or death. For correct product selection and use, individuals should consult their on-site safety professional or industrial hygienist. For additional product information, visit www.3M.com/PPESafety.
**Angle Grinder Testimonial**

I had a work piece clamped in my vise at about “belly height.” I had put an old wheel on my grinder that had been around a long time. I wanted to use it because it was coarser than a normal wheel and I wanted to remove material quickly. The wheel was actually a worn out wheel from a seven inch grinder; the grinder I was using was four and a half inches. I removed the guard thinking that I would be extra careful to keep my fingers out of the path of the wheel. I engaged the trigger, the wheel began to come up to speed, and then it wobbled and flew apart, sending shrapnel into my belly. Agggh! I raised my shirt and found a big red abrasion but no flowing blood. Man, did that hurt! Thank God it didn’t bleed.

What I learned that day is that the guard is not only there to keep your fingers away from the wheel but to keep exploding bits of grinding wheel away from you. Don’t operate your grinder without the guard in place. Don’t use wheels that don’t fit properly. And always wear your safety glasses.

Dave Mudge, lama@lametalsmiths.org

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**Another Angle Grinder Testimonial**

One of the most basic rules has not been brought up in grinder – when you are done grinding, do not set the grinder on the disc! Set the tool on its back with the disc up. When the tool is placed with the disc down, something can bump the grinder on a table or a piece of stock can fall on the disc. (Someone could also whack it with a hammer! – Ed.) If the grinder is on the floor, you can kick it while working, or something can fall onto it. All of these can crack the disc, so that the next time you turn the grinder on, the disc can fly apart or shatter and cut or rip you badly. I’ve been welding 39 years now and have been bitten badly by angle grinders several times. The wounds take weeks to heal as they are rips and tears and not slices. These are one of the most dangerous tools in the shop and they can catch, explode, or set you on fire. They are capable of all three and not letting the disc get impacted and fractured is a great way to cut the risk of injury. And, of course, if you see something hit the disc hard enough to make an obvious noise of impact, get rid of it! If you run a disc that is chipped or cracked you are really asking for trouble.

Ralph Sproul, Webster, NH

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**Yet another Angle Grinder Issue: Cancer**

Some years ago, I lost control of my 7” angle grinder, and took a gouge out of the top of my leg. The wound sorta healed, but never really fully healed up. I let it go for several years, with it being “almost healed”. After my Doc checked it out, he biopsied it: **malignant**.

He sent me to an oncological dermatologist = = I now have a roughly 6” long zig zag scar on my leg, where the dermatologist dug and dug until no cancer cells remained. He said that he has no idea what caused the problem, but I’ve guessed that the grinding wheel left crud in the wound, which caused an inflammatory type reaction. Many cancers are due to constant irritation/inflammation—think tobacco smoke. Now I get checked out every 4 to 6 months; other skin problems but no reoccurrences of the cancer in the leg.

Angle grinder are dangerous, I use them a lot, but try to respect them.

Mike Mumford, Editor California Blacksmith Magazine
Cracked Pot?

So you are thinking of replacing your old cracked Centaur Fire Pot with one of the NEB, heavy cast offerings. Well you can buy a tuyere or fabricate one yourself. Here is a photo that shows the dimensions of the materials used when Bob Menard builds one for a member. You can see that it is not an impossible task for anyone with some basic welding skills and the initiative. If you don’t feel comfortable welding or if you don’t have a wire feed welder, (stick welding 11 gauge might be a challenge, I know it would be for me) there are members in your area who would gladly help you out. After all that is why we publish the membership list, so people can network and cooperate. Remember the NEB motto - “To Discover—To Help”

Material list:
3” x 3” sq tube 7-3/4” long
8” x 5-1/2” 11 gauge
3” sch 40 pipe—2-1/2” long
1”x 1/8" or 3/16" flat bar (enough to make a box) and another piece of 1/8" plate with a 2 -3/4" hole cut in it, that the transition is made up from. The sides are 4 pieces welded, I find that easier.
Hinge, flap, rod & counter balance for the ash dump
Drill your mount holes in the cast iron pot, make a template to transfer to the mounting flange
2 holes are all that are required but make sure the result has the ash dump on the side you want!
A little furnace cement will seal the two units together. 

Fred Mikkelsen & Bob Menard
Morrell’s What’s It
This tool picture was submitted by David Court. OK – here’s the skinny on this item. **Overall length is 32”, 5” dia., and 2 ½” eye on shaft end.** Be specific on it’s use. The best answer will be accepted.

If you wish to guess or know the answer to this, then please send your answer on a 3”x5” postcard, or email mormetl@mtdata.com. The winner will be drawn from the correct answers. The winner will receive either 20 iron-in-the-hat drawing tickets or a one-year membership to NEB! Look for the answer and the winner in the next newsletter.

Wholly sponsored by Morrell Metalsmiths, Ltd.

Last issue answer:
Only one close answer, and only because he was also asked to produce one in the past. This tool is used to shave the meat out of a coconut. The winner is Ed Grove who identified with coconuts, but answered that it was used to de-husk the coconut. Congrats to Ed.

$52.00 $145.00 $172.00
FOB one of our 4 staging locations, Portland, ME—Colrain, MA—Brentwood, NH—Narragansett, RI
**Some Schools and Classes**

**New England School of Metalwork**
**Auburn, ME**
May 4-7 Andy Dohner– Forging with Function
May 9-12 Rob Hudson– Damascus Blade forging
May 15-18 Dereck Glaser- Joinery
May 30-31 Belt Grinder, build & use it
June 4-8 Toby Hickman– Power Hammer Tech.
June 12-16 Bob Alexander– Flowers in Metal
June 25-29 Burt Foster– Bladesmithing 101

**Lake Champlain Maritime Museum**
**Vergennes, VT**
Basic Blacksmithing Workshops with Peter Wells
July 14-15, July 27-29
Basic Blacksmithing for teens with Robert Wetzel
July 16-17
Blacksmithing Projects with Peter Wells
August 4-5, August 10-12
Basic Bladesmithing with Bob Bordeaux
August 25-26

**Haystack Mountain School of Crafts**
**Deer Isle, Maine**
May 27– June 8-Playing with Fire– Jim Wallace
8/26– 9/ 1- The anatomy of sheet Metal– Hoss Haley

**Touchstone Center for Crafts**
**Farmington, PA**
Beginning Blacksmithing with Jody Best
April 20-22
Blacksmithing for Teens with Glenn Horr
April 27-29
Fundamentals of Forging with Matt Yeomans
May 25-27
The Magnificent Seven with John Medwedeff
June 4-6
Renaissance Ironwork with Phil Heath
June 12-15
Forged Furniture in Scale with Fred Crist
June 18-22

**Classical Blacksmith School of Boston**
**Concord, MA**
Taught by Carl Close
Introduction to Blacksmithing
April 5 & 12, May 3 & 10, June 7 & 21

**Prospect Hill Forge**
**Waltham, MA**
A Taste of Blacksmithing
April 5, 7, 11, 29 May 3

**William Hannaway Blacksmith Shop**
**Lincoln, RI**
Open Saturdays

**South County Museum**
**Narragansett, RI**
Blacksmith Kids Camp
July 11-13
Blacksmithing for adults open forge on Wed.
Aug 8, 15, 22, 29

**Peter’s Valley**
**Layton, NJ**
Beginning Blacksmithing with Dick Sargent
May 19-20
Forging Organic Forms with Jim Wycoff
May 26-28
Early American door hardware– Lucian Avery
June 1-5
Concept Development for the Smith– Doug Wilson
June 8-12
From Mind to Metal with Paige Davis
June 22-26