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Echoes of the 'Ring'
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Shop Tips
Echoes of the 'Ring'
Projects
Old Drawings

And More . . .

WORK SAFE!

A blacksmith's shop can be a fun, productive part of your life. It is also a place that does not tolerate carelessness or ignorance. If you have never done it before, find someone that has and ask.

Detail of a Firescreen by Samuel Yellin
Courtesy of Samuel Yellin Metalworkers

This drawing illustrates a wide variety of effects that were translated into metal with chisels and chasing tools. In a future issue, we will explore tooling and processes that will allow you to try it yourself.
LETTERS TO THE EDITOR

Brass Hammers Revisited

Dear Mr. Ryan,

I appreciated how difficult it can be to gather enough material to publish a single issue of "The Hammer's Blow". Furthermore, I understand how difficult it can be to keep track of all the minor points and details of every article published. However, I must say that I take exception to Mr. Francis Whitaker's response to my article, published Summer 1994, Vol 2, #3 titled "Tool Time", and concerning the use of brass hammers.

My statement was, and I quote, "If you would like to cut down on the time spent resharpening your cut off hardy or other edge up anvil tools, try using a brass hammer. A #3 brass hammer will make quick work of most cutting jobs and will avoid flattening out the cutting edge if you over shoot the job."

Perhaps Mr. Whitaker did not understand the sentence but his rebuttal does not have anything whatsoever to do with my article. All he accomplishes is to make me look foolish or inept to anyone who did not read or does not remember the original article. Thank you, but I do that well enough on my own without outside help.

I have great respect for Mr. Whitaker as a teacher and craftsman, but I can only hope that in the future he will read and understand the entire article before commenting on it. I also hope that you will check the original article before publishing an inaccurate rebuttal.

Sincerely,

Franklyn D. Garland

Credit Due

Vol 2, #4 contained an article submitted by Virgil Vines entitled the Grey Patina of Steel. The credits listed Virgil as a member of the Appalachian Blacksmiths Association when in fact he is a member of the North Texas Blacksmiths Association. Thanks for the fine tip, Virgil.

Correction

From Walt Hull - Lawrence, KS

The spiral candlestick holder on page 5 of the last issue (Vol 2, #4) is shown with a left-hand spiral, but as having been made from a left-hand spiral and a right-hand spiral put together. I don't think this is going to work. I think you have to do it like this:

The Hammer's Blow

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BLACKSMITHS' BOOKSHELF

In each issue a new book will be added to the Blacksmiths' Bookshelf. The selections will be drawn from the range of books that deal with process, tooling and patterns. Many blacksmiths have asked which books are more of the 'how-to' variety. This section is directed towards trying to answer that question.

WERK und WERKZEUG des KUNSTSCHMIEDS
(Work and Tooling of the Art-smith)
by Otto Schmirler

With over 200 photographs and more than 80 excellent pen and ink sketches, this is a solid introduction to the world of decorative traditional forge work. The text is in English with French and German translations. Beginning with the basics and progressing nicely, Schmirler takes you through a wide range of motifs and processes. Steps and tooling are clearly depicted while on other pages a wealth of information can be found in galleries of effects. Quite a few of the sketches have the hot sections of stock colored to separate stock from tool. Topics dealt with include leaf work, slitting and drifting, decorative chisel work, animal forms and tools. Methods of joinery, forging a crisp 90 degree bend in round stock as well as a variety of detailed bar endings are also here. Werk und Werkzeug des Kunstschmieds answered a lot of questions for me, including some I hadn't even considered before I bought it. A Blacksmiths' Bookshelf would do well to have this volume in residence. It is available through Centaur Forge and Norm Larson Books.

SHOP TIPS

LAYOUT MAGIC
Hugh Eddy / Caldwell ID

Use blue or black magic marker for layout fluid. Color the area, the marker dries almost on contact and silver pencil or a scribe line shows up well.

FIXTURE TIP
Gunther / South Mountain

Clearance in a fixture is critical. Too little clearance and it's hard to get stock in or out. Too much and the 'slop' affects accuracy. A good rule-of-thumb clearance can be achieved with a strip of notebook paper folded once. The double thickness of paper gives the needed clearance. Clamp the paper between the stock and parts of the fixture. Tack the fixture parts to a base plate. Remove the stock and paper. Test for accuracy, then weld it firm.

WIRING
Bob Bergman / Blanchardville WI

When wiring your shop, run the wire around the walls in conduit. Use 10' lengths with an outlet box at each junction. This is the best use of materials and you can never have too many outlets.

NON-TOXIC FINISH
Susan Livermore / Ribera NM

Here is a recipe for a non-toxic finish for interior ironwork. On a hot plate outdoors, heat up the following:

4 cups Natural Citrus Thinner
4 cups Penetrating Oil Sealer
Add: 1 handful Bilo Floor Wax (stir until melted)
Add: 2 more cups Natural Citrus Thinner

We paint the oil mixture on thinly and wipe with a cloth. All of these supplies are available from The Natural Choice - 1365 Rufina Circle, Santa Fe, NM 87501 phone: (505) 438-3448.
HINGE TOOLING
Hugh Eddy / Caldwell ID

The Tool - Take a piece of tool steel, annealed or normalized and drill a hole as shown. To figure the diameter of the hole you add twice the hinge stock thickness to the hinge pin diameter. For example 1/8" thick hinge stock times two, plus the 1/8" hinge pin diameter equals 3/8" plus 1/32" for clearance gives you a drill size of 13/32".

Once the hole is drilled, layout and saw a slot that is aligned with one edge of the drilled hole (as opposed to centered over it). The slot should be slightly wider than the hinge stock is thick. To get an easier action to the eye rolling process, you should smooth the wall of the drilled hole and the saw cut. Less friction is the goal. For light stock, this is a cold-work tool, larger versions will work with hot stock.

To use the hinge tool you have just completed, gather the following:

1) Hinge flat stock - for the tool in this example, use 1/8" x 1" x 6" long.
2) Eye forming pin - for the tool in this example, use 1/8" round drill rod. Taper 1-1/4" of eye and the taper will release as it is driven out of the finished eye.

The Process - Although the resulting eye is as functional whether you leave the end square, a narrow bevel run across the width of the hinge stock prior to rolling it, adds to the look of the finished eye. Break the edge of the hinge stock across the width at one end as if to start a scroll. Compare the curve to the curve of the drilled hole and adjust.

When you have a close fit, insert the untapered end of the drill rod pin into the hole with the curved hinge stock. Using a press or light, repetitive hammer blows, gently drive the hinge stock down into the block. The curve of the drilled hole will guide the curved, beveled end of the hinge stock around the drill rod forming a tight eye. Use an appropriate diameter rod to drive the finished hinge eye, still wrapped around the pin, out of the block. Tap the drill rod pin out of the hinge eye. As the full-dimensioned end of the pin is pushed through, the tapered end allows the pin to fall through.
This technical tidbit came from the September 1976 issue of the Anvil's Ring (Volume 4, No.2).

This method of making an onion bulb for an andiron is condensed from directions given in the January 1908 issue of The American Blacksmith magazine.

1 - Use thirteen 1/4 or 5/16 pieces of round or square stock, 7-1/2" long. If square, twist before welding.

2 - Take a one inch rod 3-7/8" long and draw it down to 7/8". Do the same for a 1-1/4" rod 5-7/8" long. Cut three pieces of 7/8" rod into lengths of 1-1/4". (Fig A)

3 - Place the thirteen small rods around the three pieces of 7/8" rods and around the drawn out portion of the 1" rod. Bind tightly with a piece of wire. (Fig B)

4 - Place in fire holding with tongs that are secured with a tong ring. Turn occasionally to prevent burning rods on the bottom. Bring up to a welding heat. If the end plug drops out, hold in place with a poker. When welding heat occurs take out and weld only the end of rods. While still red, forge or fuller joint to about 7/8" diameter. (Fig C)

5 - Weld the bottom plug in the same manner, but do not fuller at the joint. (Fig D)

6 - Bring to a uniform yellow heat and twist a full turn by holding one end in vise and using a monkey wrench to twist on the other end. (Fig E)

7 - In another heat, place the piece vertically in vise and untwist while tapping lightly on the end. This will open the rods. By spreading them a little, the three pieces of round rod inside will drop out. (Fig F)

8 - Dress evenness of thirteen rods by heating the top half cherry red, placing in vise and dressing by prising {Editor's Note: 'Prising = prying'} with a punch inserted between the rods. Repeat this on the bottom half of the piece. Finished bulb should measure 5-3/4" top to bottom by 3-1/4" wide.
Drawing Tips & Terms

A good shop drawing should include SECTIONAL NOTATIONS (see chart). It should also have dimensions labeled. The two basic types of drawings are PLAN (looking down onto the subject) and ELEVATION (looking at the subject drawings done on the same plane). The illustration below shows all of these principles.

Joinery is detailed and components that pass through other parts are indicated with a dashed line. A good rule is to draw as close to full scale as you can $3''=1'$ and $6''=1'$ are good for larger projects.

After you have drawn and labeled dimensions, add up all relevant dimensions (those that comprise the length or height of the work for example). See that they equal the overall dimension you need to achieve. This way you can verify that the parts equal the whole, based on your measurements, before you start to cut and forge.

Finally, work off of the dimensions instead of a scale reading of the drawing. Paper can expand or contract with the weather and a ten foot long, full scale drawing of a project can change $1/4''$ or more overnight. That is why labeling dimensions is so critical, paper may warp but the numbers won't.

Door Handle by Samuel Yellin

*Courtesy of Samuel Yellin Metalworkers*
SECTIONAL NOTATIONS
Here is a set of symbols used to designate stock type and cross sections in shop drawings.

- SECTIONAL SQUARE
- SOLID-RECTANGLE
- SOLID-ROUND
- TUBE-SQUARE
- TUBE-RECTANGLE
- TUBE-ROUND
- PIPE
- ANGLE IRON
- CHANNEL
- BEAM

MORE TIPS

Shown below is a section of a grille. For all the information shown in the left side of the drawing, there is more information needed to fully understand the total look of the piece. To supply that information two conventions are used on the right side of this drawing. One is the PLAN view of the details shown in the upper right of the drawing. The 'A'-A' and 'B'-B' details are slices through the work that have been rotated 90 degrees revealing the cross section of the forged components shown in 'A' and the roundness of the collar in plan 'B'. A quick glance at the drawing shows where the sections were taken from. The other convention used is the scale drawing of the entire project in the lower right corner. The overall dimensions are noted, the scale detail to the project is displayed.

The more detail and information your drawing contains, the better that drawing will serve you. It is far less expensive to work out the design and mechanical relationships on the drawing board than in the shop with hot iron.

Detail of a Grille by Samuel Yellin
Courtesy of Samuel Yellin Metalworkers

WINTER 1994-95
MORE PROJECTS

BOOKEND
Casey Bergman / Blanchardville WI

Step 1 - Cut the pattern out of 16 gauge iron or copper.

Step 2 - Fold back and hammer tight.

Step 3 - Bend around rod and leave the circle tilted in slightly - rolled part acts like a spring.

Step 4 - Decorate circle by making a bunch of grapes out of copper sheet. Punch copper into leather with a round nosed punch, then cut around the resulting grape pattern.

Step 5 - Rivet to circle.

BAR ENDINGS
Gunther / South Mountain

Here are several progressions from bar end to decoration. They work at any size.
CONFERENCES & EVENTS

Mar 03-05 POWERHAMMER REBUILDING SEMINAR
Fred Caylor will be the instructor for this 3-day seminar to be held at Little Giant/Automotive Inc in Nebraska City, NE. Registration fee is $85. For more info call: (402) 873-6603

Apr 07-09 CBA SPRING CONFERENCE
The California Blacksmiths Association will hold their Spring Conference in Auburn, CA. Opening reception night of the 6th. Contact - John McLellan (916) 652-5098 or (916) 786-0560

Apr 08-09 IVBA NEW SALEM 13th HAMMER-IN
The Illinois Valley Blacksmith Assoc will host this event at the Lincoln's New Salem State Historic Site 20 miles NW of Springfield on Route 97. Featured demonstrator: Jay Burnham-Kidwell, Golden Valley AZ. Registration is $10 per day before 3/20/95, $15 per day at the door. Free chicken dinner Sat night for those pre-registered. Contact - Jim Patton (217) 546-4645

Apr 22-23 BGOP ANNUAL SPRING FLING
A great array of talents will gather for the Blacksmith's Guild of the Potomac Annual Spring Fling. Jack Andrews, Peter Ross, Ed Small, Clay Spencer, and Dorothy Stiegl on will demonstrate. Contact - Tom Coker (301) 942-8573 evenings

May 04-06 METAL ART SYMPOSIUM
Gallery showing, panel discussions and demos with Jeff Funk, Nana Schowalter, Doug Hendrickson, and Hoss Haley at Sloss Furnaces, Birmingham AL. Contact: Paige (205) 324-1911.

May 05-07 NEBA SPRING HAMMER-IN
The North East Blacksmith Association will hold their Spring Hammer-in at the Ashokan Field Campus in Kingston, NY. Tom Latane of Pepin, WI will provide a weekend of demonstration and discussion. Contact - Tim Neu (914) 657-8333

May 05-07 BAM OZARK CONFERENCE
Potosi, Missouri - Contact Tom Clark (314) 438-4725

May 19-20 SOUTHEASTERN REGIONAL CONF - Madison, GA

May 27-28 MFC ANNUAL CONFERENCE
The Mississippi Forge Council is featuring Doug Hendrickson and Roberta Elliott as the demonstrators for their annual conference. For more details call (601) 362-9068.

WANTED

Used 50 or 100 lb power hammer, Little Giant or comparable, good condition, reasonable price. Contact John Seaver, PO Box 328, Santa Fe NM 87504, phone (505) 466-7675 or contact through CompuServe 72622,2505.

FOR SALE

25 lb New Little Giant never used $3,000
25 lb McGowan Finnegan excellent cond $2000
25 lb Bradley beam type hammer $1500
400 lb Morgan single frame steam $2000
400 lb Erie single frame $2000
Champion Drill Presses many heavy hand operted, most are Champion selling at $300 or less
Cast Iron Bending Tables (Four) $300 each

For more information on the above items for sale, contact Carl Wade, Box 18, Leckrone PA 15454, phone between 6-10 EST (412) 437-1600.

Tinsmithing VHS 2 hr Video training film. Also included are shop drawings of everything built during the making of the film (plus a few more), punching/piercing patterns, simple instructions on soldering, a list of books on "how-to" and history of tinware (all pictured) and suppliers of materials and tools. This video for $48.00 includes packaging/handling, postage. Send orders to: Dale the Tinker, PO Box 21, St. Albans, WV 25177.

Heavy Duty Fry Pan Blanks, steel, approximately 9" diameter with 2" sides--12gauge (.095) thickness. Has two 3/16" holes for your decorative handle. $6 each or 12 for $60; shipping $3 plus 50c for each additional pan. Bob Tuffee, 3855 Aspen Hills Dr, Bettendorf IA 52722.

SUPPLIERS

For a wide range of tool steels and specialty metals such as brass, bronze, monel, and copper - check out Southern Tool Steel Inc. They have no minimum and no cutting charge. 1-800-647-5188 or write to them at: 5395 Wilbanks Drive, PO Box 1116, Chattanooga, TN 37343.

Metallurgical Coal shipped by UPS 50-100 lbs. Bulk in bags or truckload. Flyer available. Contact: American Natural Resources, PO Box 304, McHenry MD 2154, phone (301) 387-0327.

CLASSES

KNIFEMAKING CLASSES
2-day workshops on knifemaking - Learn traditional knifemaking with forge, anvil, and hammer. Make your own knife with new, modern tool steels. All materials provided. $250 per person, two person limit, classes open year round. For more info contact: Karl Schroen, 4042 Bones Rd, Sebastopol CA 95472, (707) 823-4057.

THE FORGERY, SCHOOL OF BLACKSMITHING
Class openings available with instructor, Robb Gunther. For information and class schedules write: The Forgery, 13 Irmaha Rd, Tijeras NM 97059 or call (505) 281-8080.
MEMBERSHIP APPLICATION

ABANA

Send to: ABANA, P.O. Box 1181, Nashville, IN 47448

[Box for mailing address]

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