Share What You Know

Almost everything we know we learn from someone who was willing to share. We are all members of an organization, ABANA, that has "educational purposes" as its sole charter. So very much comprises decorative foregework that no wonder Chaucer reflected on the craft as "life so short and the craft so long to learn". Sharing tips and techniques furthers that learning.

Twists & Twists

We are all familiar with twisting a bar. But it's what you do to that bar before you twist it that opens up the world of decorative twists. Usually a hammer and a chisel or a fuller are all you need prior to twisting.
OLD DRAWING

Two illustrations from: Drawing for Carpenters and Joiners, 1870

This pair of illustrations shows the center points (intersecting lines) that are the locations where you would set your compass to draw the Gothic tracery shown in the lower right. To start, you draw a circle of whatever size you need. Draw a line across the center and divide that line into quarters. Each of the three points on the line that those quarters represent are locations to anchor your compass as you describe the inner curves. Follow the same proportional division of the lines you draw as you see in the examples and you will find the shape on the right is far easier to achieve than it appears. The concept of layered simplicity resulting in a complex visual effect is the secret of much of the fine metalwork of Europe.

LETTERS TO THE EDITOR

If any of the readers know where I might go for information on old gun making techniques, I would appreciate it. Thank you.

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Wrought Ironwork
by the Rural Development Council of England

Wrought Ironwork, the name says it all. This small volume is one of the series of books on forged decorative ironwork published by the Rural Development Council of England, an organization with several other books to its credit. The book contains basic descriptions and clear, concise photographs of tooling and process put forth in a step-by-step manner.

Starting with a wide variety of scroll endings and how to forge them, this volume deals with a range of decorative effects. It also includes collars, twists, slit and drift joinery, tenons and leaves. Several excellent techniques are featured, one of which is how to transfer your full scale paper based drawings to a steel layout plate or table. Tools are described and a stepped lesson in making a scroll tool is included. There is also a section on die-forged decorations.

The last section of the book is oriented towards forging and assembling a traditionally designed and joined gate. Latches, pivots and the fitting of parts are covered in detail.

Don't think that this is strictly a beginners book, although a beginner won't go wrong adding it to their Blacksmiths Bookshelf. In fact there is information that the intermediate blacksmith would appreciate as well. The traditional approach and non-electric solutions are what this book is about. However, a smith with a contemporary design sense can still draw a great deal from the process and joinery sections of Wrought Ironwork.

SHOP TIPS

Tong Modification
Hugh Eddy / Caldwell ID

Horseshoe nippers into bolt tongs:

Grind opposing 'V's into the jaws of the horseshoe nippers. Weld angle iron sections into those 'V's.

Flat jaws into box jaw tongs:

Weld flat stock across the end of the bottom jaw of a set of tongs. Heat the flat and bend it up on either side of the top jaw.
MORE SHOP TIPS

Centered Hole
Layout both sides of a bar accurately. Center punch and drill from both sides meeting in the middle. This prevents the common error of drill bit travel when drilling from just one side.

'Checker Bar' For Twists
Bob Heath / Bellevue, KY

This tool is to check a bar on either side of a twist to see if the flat faces are parallel. Take a bar or piece of angle iron, somewhat longer than the twisted area and weld a short piece of bar stock on each end. These pieces should be the same length. If the faces on either side of the twist are parallel then the tool will make full contact with both faces.

Tool Holder
Ernie Dorrill / Carthage MO

Problem: Organization of chisels and punches.
Solution: Take a log that is 10" to 12" in diameter, seasoned, and split in half. Cedar does well and does not appear to split or check when drying. Length need be no more than 18". Mark and drill holes that are 1/2", 3/4" and 1" in diameter or appropriate for your particular circumstances, approximately 2" deep and 3/4" apart. When finished, attach handles to either end. Your chisels and punches can easily be seen at a glance with enough room between them to let you select one without getting scratched or cut. I attempt to organize different tools by their function. The result of this one hour project has rewarded me time and again by efficiency and appearance.

Self Centering Punch
Wayne Everts / Kenosha WI

Material: 5/8" tool steel rod 8" long
1/4" tool steel rod 7" long

Procedure:
Upset a section of the rod about 2" from one end to 3/4" diameter. Grind a point on the end of the 5/8" rod below the upset. Drill 15/64" hole through the upset section. Heat the upset section to red and drive the 1/4" rod through drilled hole until centered. Bend the 1/4" rod as shown. Heat treat the 5/8" point.

Use:
Rotate punch until 1/4" rod touches the sides of bar and punch.
ECHOES OF THE 'RING'

These tips are taken from the Fall 1983 issue of the *Anvil's Ring* (Volume 11, Issue #3). They are part of an excellent article on forging a rail at a workshop with Francis Whitaker. While I have selected those points that deal with twists, there are many other topics dealt with in that article.

TWISTING WRENCH

Bend into a flattened "S" shape a 36" piece of stock at least the size of the largest twist to be made, e.g., ⅛" for twisting ¼" material, Figure C-1. The "S" wrench permits using the tool for two different sizes of material. The first bend is made hot over a piece of the stock fitted length wise in the bend, Figure C-2. The second bend is made similarly using a smaller bar for sizing, Figure C-2. Heat the center part of the wrench orange and quench. The handles are rounded to provide a comfortable grip. This type of wrench provides even torque and keeps the twisted section straight.

![Diagram of twisting wrench](image)

Figure C-1. Sizing the twisting wrench using square bars.

Figure C-2. Using the twisting wrench.

The authors of the original piece that these tips come from were Roy Bellow, a blacksmith working in the Fredricksburg/Johnson City, Texas area and George Holliday, a blacksmith with an interest in recording blacksmithing techniques.
Twisting Wrench

The stock you select to forge your twisting wrench from will vary depending on the size of the stock you intend to twist. You can scale the following example up or down to accommodate your needs and eventually your needs will cause you to make a range of wrenches. The example below will handle 1/2" square stock.

1) Take a piece of 1/4" x 1-1/4" or 1-1/2" about 12" long. Mark the center, take a heat and with a 3/8" square punch, hot punch a hole on the 'diamond'. (See Fig 1) Having the hole on the 'diamond' puts the handle at 45 degrees to the bar you are going to twist, this gives better leverage than a hole placed square with the bar would. The displacement of material to the sides as you punch from both sides gives you a hole slightly larger at the surface than at the center, this irregularity is why you punch slightly undersize.

![Fig 1](image1)

2) Drift or file the hole up to slightly over 1/2" square (9/16" square is not too much). This allows an easy fit over a 1/2" square bar, especially if you have broken, slightly flattened, the edges as a subtle decorative effect.

3) From a point about 1-1/2" on either side of the finished hole, take a heat and forge the stock down to define and lengthen the handles. Be careful not to draw the handles down to thin or they will bend during use. Your 12" stock blank should draw out to a 15" or 16" tool. The handles will be fine with an even draw (See Fig 2), but Fig 3 shows a more comfortable shape to grip.

![Fig 2](image2)

![Fig 3](image3)
PROJECT

Hold Down System
Paul Hinds / Milwaukie OR

Here is a third hand for the smith that works alone. It has been in use for about ten years. The ratchet is not essential, but it does improve operation. The pin connecting link makes it easy to remove this assembly from the anvil base. This system is great for 'drop tongs' welding and holding work while chasing and chiseling.

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ABANA is on the move!

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To chase is to push the surface of the metal down, to use blunt tools to form the surface or to embellish the surface with a variety of tools driven by a hammer. Chiseled is as it implies, to cut either the edges or the surface with a variety of chisel configurations such as curved, straight or butchers. Consider this an introduction to chased and chiseled work. The approach and example dealt with here are both basic in scope and tooling. A simplified version of the element in the lower left of the "Firescreen" by Samuel Yellin (featured on the cover of the last issue) is the goal. The tools involved after that blank is forged are a chasing tool, a chisel and a butcher.

The chasing tool in this example is configured like a flatter. It is about 5/16" square on the face with a slight radius on all four face edges.

The chisel in this example is 1/2" wide, thin in cross section and tapered across the cutting edge (a cross section cut would reveal a canoe shape) and each corner would have a slight radius.

A butcher is a type of chisel that is vertical off of one side of the cutting edge and sloped back from that edge in various degrees on the other side. The vertical face may be straight or curved across its width. In this example the butcher is 1/8" wide if straight, or 3/16" to 1/4" if curved.

Other butcher and chasing tool ends:

Side view of butchers.  
Face widths may vary.  

The tool ends shown are among the most useful shapes, make each in graduated sizes.
CHASED & CHISELED

Example stock: 3/16" x 1" steel flat at least 6" long

Forges a point

Fuller 1-1/2" back from the point.

Forges, spreads and refines the shape. Taper into round.

Layout the pattern.

Section 'A-A'

Use the chasing tool as a small set-hammer and planish (blend) out the ridge left by the heel of the butcher. Layout and incise the cross-hatch pattern with the chisel. File as needed.

Butcher the 'zig-zag' line and chisel the side pieces out.

The Butcher Cuts

The Chasing Tool Blends
TWISTS

These bar cross-sections are a sampling of what can be done prior to twisting. A few require special tooling, but the majority can be achieved with a chisel, fuller and a file. Just...

... and twist!

Bar Twister
Bob Heath / Bellevue KY

1¼" SCH. 40
OIL HOLE
2¼" SCH. 80
3/4" x 4' x 4"

1/4" or 3/8" x 5" φ
CONFERENCES & EVENTS

May 19-20 SOUTHEASTERN REGIONAL CONF - Madison, GA
Contact: Conference Chairman, Mike Dowell (205) 729-9269 or Registration Coordinator, Gloria Corbett (904) 589-8367.

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.

Jun 03-04 IBA 15th ANNUAL CONFERENCE
The Indiana Blacksmithing Association will host their annual conference at the 4-H Fairgrounds in Tipton, IN. Demonstrators will be Pamela J. Scrimshers, Bob Patrick, and Billy Merritt. Contact: Paul Moffet (317) 253-0843.

Sep 08-10 AFC BLACKSMITHING CONFERENCE
The Alabama Forge Council will host their annual event at Tannehill State Park.

Sep 15-17 EISEN FEST METAL FAIR
An array of metalcraft will be represented at this craft fair in Amana, Iowa at the Millstream Brewery. Free admission and parking, good food, a swap meet, contests, and an anvil shoot at noon! For more info or an application to show your craft, write: PWP, Box 193, Amana IA 52203 or call (319) 622-3100.

Sep 23-24 SOFA's QUAD STATE ROUND-UP
The Southern Ohio Forge & Anvil will host their annual Round-Up at the Miami County Fairgrounds near Tipp City, Ohio. Demonstrators scheduled are - Basic Blacksmithing with Charlie Orlando, Contemporary Lighting with Roberta Elliott, Knife-making with Jim Batson, Metalspinning with Russell Odel, and Hardware with Peter Sevin. Registration packets will be available after June 1st. If you don't get one, contact: Brian Thompson Conference Chairman (513) 878-7084.

Nov 05-06 ABA FALL CONFERENCE
The Appalachian Blacksmith Association will host their fall conference in Ripley, WV. Walt Scadden is the featured demonstrator. Contact: Bob Elliott (304) 534-3685.

FOR SALE

Personal collection of blacksmithing books, most out-of-print and collectible. Several that document the late 19th and early 20th century decorative styles in ironwork. Request description and price list from John Dittmeier, 1420 New Bellevue Ave #1809, Daytona Beach, FL 32114-5658 or call (904) 257-5317.

Belt Driven Table Saw, $275 Extra Nice
120 lb Eagle Anvil, $150
Cut-Off Saw, Dated 1842, $350
Ratchel Forge, $150
Drill Press, Approx 600 lb, Floor Model, $550
Contact: Denny Strowan (814) 589-7973 Titusville, PA - please no Sunday calls.

ANNOUNCEMENTS

CALL FOR BOARD NOMINATIONS: Deadline - July 20, 1995
It's time again to send in nominations for the ABANA Board of Directors. Nominees shall submit an endorsement containing at least 10 signatures of ABANA members in good standing. Nominees should also submit a resume and photograph with their petition. This information must be postmarked no later than July 20, 1995 and mailed to ABANA's new office location:

ABANA
PO Box 206
Washington, MO 63090
Hrs 9am-5pm weekdays CST

GLASTONBURY ART GUILD FINE ART & CRAFT SHOW: CALL FOR ENTRY - Deadline: July 15, 1995
In Glastonbury, Connecticut, the Glastonbury Art Guild's 33rd annual "On The Green" Fine Art & Craft Show is looking for metal artists to exhibit in their nationally-recognized outdoor show scheduled for September 9-10. Entries will be juried by 2 slides or photographs. Booth fee $90. Cash awards. For application and information, send SASE to: Glastonbury Art Guild "On The Green", PO Box 304, Glastonbury, CT 06033.

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Provided by the ABANA Membership Services Committee.

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Tool steels and specialty metals such as brass, bronze, monel, and copper. Southern Tool Steel Inc. They have no minimum and no cutting charge. 1-800-847-5188 or write to: 5395 Wilbanks Drive, PO Box 1116, Chattanooga, TN 37343.
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