fices such as President, Vice President, Treasurer, Secretary and Editor or the traditional chairmanships such of Ways and Means, Programs, Membership and Hospitality, but other responsibilities or alternative divisions may be defined at any meeting. Any of these responsibilities may be divided among directors.

Continuity of Responsibilities. Certain responsibilities of the board are best held by the same person or persons for extended periods of time. These include the duties of Treasurer, Editor and Membership. The board shall take care that these and similar tasks are not arbitrarily reassigned, and that ample overlap time is provide when responsibilities change.

Delegated Responsibilities. Clerical duties, such as taking minutes or bookkeeping, may be delegated to any member, or to any nonmember approved by the board.

Specific Responsibilities of the Board. The duties will consist of undertaking the daily business of this organization, including the following:

Keeping a permanent record ("minutes") of all the business conducted at both board meetings and membership meetings, including elections, votes and resolutions. The minutes of board meetings shall record the names of all persons attending board meetings. The minutes of membership meetings shall record the names of all board members in attendance, as well as a count of all persons in attendance. (Minutes need not be taken at membership meetings if no business is conducted.)

Issuing a newsletter not less than quarterly, and for appointing the editor of any periodical publication of the group.

Maintaining a membership roster that will include the pertinent information for each member and director.

Establishing and maintaining liaison with other organizations where such liaisons are in the interest of NJBA.

Making the bylaws available to any member upon request.

Article VI. Dues and Finances

The provisions of this Article are intended to avoid financial errors, mishaps and wrongdoing where large amounts of money are involved. Where transactions of more than one-hundred dollars or a treasury balance of more than two thousand dollars are involved, the provisions of this Article shall be followed explicitly. Where lesser amounts of money are involved, the provisions of this Article should be considered guidelines to be followed to the extent practicable; in this case the directors are responsible for ensuring that the procedures employed are proportionate to the money amounts involved.

Dues. The annual dues shall be set or changed by the board by unanimous consent at a board meeting or by a majority vote at a membership meeting called for the purpose. The board shall have the discretion of setting dues periods, of pro-rating dues, and of creating multiple membership (and dues) categories, and of admitting organizations as non-voting regular members.

Cash. When a large amount of cash is received at meetings and events, at least two directors or other persons designated by the board shall receive and count the money. No such money shall be counted privately. It will be counted at the meeting or event and the amount will be recorded in a timely fashion in the account books. Cash shall not be kept longer than overnight or weekends, other than a petty cash fund as allowed by the board.

Fiscal Year. The fiscal year shall correspond to the calendar year, unless otherwise defined by the board.

Account Books and Check Book. The board shall keep an account of all monies received and expended for the use of the organization and shall make disbursements only upon approval of the board. The funds, check book and account books shall at all times be under the control of the board and subject to their inspection and control. At the expiration of their terms the directors shall deliver over to their successors all account books, check books and other bank records, monies and other properties of NJBA.

Financial Reports. A financial report shall be presented orally at every board meeting, and shall be recorded in the minutes. A full financial report shall be prepared in writing annually, and shall be filed with the records of the NJBA. More frequent reports may be ordered by the board at any time.

Budgets. NJBA shall develop a budget for all its functions, and no amount over $25 shall be spent without the approval of the board of directors.

Audits. The board may elect to have an annual audit at the end of each fiscal year, with a report back to the board and the membership. The auditors may go over the books with board members, but the full audit must be done privately.

Banking. The board shall deposit all funds received in a financial institution, approved by the board. Funds may be drawn only upon the signature of one or more directors who have been registered with the financial institution as having signing authority. The financial institution shall be informed that the policy of the NJBA is that no checks may be withdrawn to "cash." Nothing in this provision shall require the NJBA to open an account which, through its fee structure, will unreasonably deplete the NJBA treasury.

Article VII. Membership Meetings

Frequency and Preferred Arrangements. General membership meetings are to be held at least four times per year, and preferably in conjunction with demonstrations at shops volunteered by the membership.

Compensation to Host. Those members providing their forge for these meetings will be reimbursed for expenses incurred in the production of demonstrations and the meeting. The compensation will be set by majority vote of the board.

Quorum. In deciding NJBA business, a quorum of the membership shall consist of those attending the membership meeting.

Article VIII. Conduct of Meetings

Rules of Order. Wolfe_s Rules of Order (by Joan L. Wolfe, *Making Things Happen*, (Brick House Publishing Co., Andover MA, c. 1981), or (Island Press, Washington, DC, c. 1991) shall be the parliamentary rules employed by NJBA.

Informal Meeting Conduct. Where meetings are amiable and self-directing, and as long as participants have no objection, the traditions of parliamentary procedure will be observed only informally. As much as possible, decisions shall be made by unanimous consent.

Invoking the Rules of Order. If at any time the chairman of a meeting considers it appropriate, he may conduct the meeting according to the rules of order. If at any time any participant at a board or membership meeting feels the need, he may legitimately interrupt the proceedings

("rise to a point of order") and move to invoke the rules of order. This motion requires a second, but permits no discussion and requires no vote. The chairman continues the meeting under the rules of order.

Meeting Agendas. The board is responsible for writing an agenda for each board and membership business meeting. The agenda shall be distributed or shall be posted in a form readable by attendees. The chairman of a meeting shall have the discretion to depart from the agenda, but participants may legitimately interrupt ("rise to a point of order") to move a return to the agenda. Such a motion, once seconded, is open for discussion and vote.

Committee Meetings. Any committee functioning as part of or on behalf of NJBA shall follow the procedures of this article, but need not keep minutes. Committees need not prepare agendas for their meetings. Committees must report progress and expenditures to the board in person or in writing.

Article IX. Business Conducted by Polling the Board

Means of Polling. The board may conduct business requiring a vote at any time by polling the directors by telephone, mail, electronic mail, or other such means.

Business Subject to Vote by Polling. Any matter of business may be transacted by polling the board, excepting only amending these bylaws, which must be conducted at a meeting. Directors may be elected by polling the board, but there will be a limit of two directors elected by such means between any two meetings of the board.

Procedure. A motion will be made and recorded in writing by any director, who will then be responsible for polling every board member for their votes, and tallying the votes.

Passing a Motion. A majority of the directors must approve the motion by polling for it to pass. There is no lesser number that can be considered a "quorum" for a vote by polling. The motion becomes effective as soon as a majority of the board votes in favor.

Recording the Vote. The voting must be completed by the time of the subsequent board meeting, and the vote will be tallied in the minutes of that meeting.

Article X Amendments to these Bylaws

Normal Amendment Process. These bylaws may be amended by a majority vote at any membership meeting, or by a unanimous vote at a board meeting, called for the purpose at least thirty days in advance. The proposed changes shall be mailed to directors (for a board vote) or to the membership (for a membership vote) at least one week in advance of the date of the meeting at which the changes are to be considered. The amended bylaws will not go into effect unless approved by ABANA.

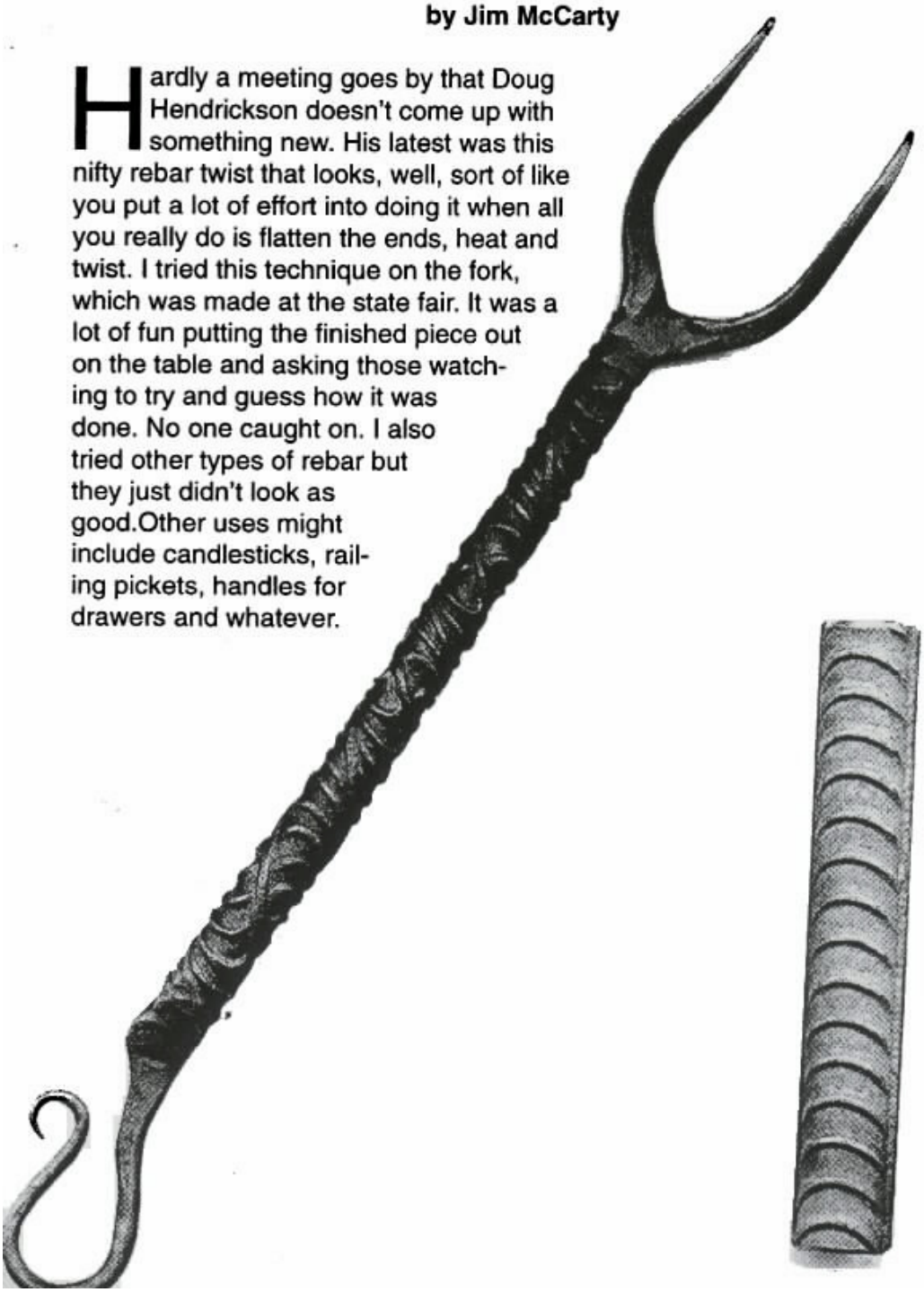
Special Amendments Provision to Maintain ABANA Chapter Status. These bylaws may be amended by a simple majority vote of the board if necessary to maintain ABANA chapter status.

Special Amendment Provision to Maintain Tax-Exempt Status. These bylaws may be amended by a simple majority vote of the board at a meeting called for the purpose at least two weeks in advance, if necessary to achieve or maintain tax-exempt status under state or federal law. The amended bylaws will not go into effect unless approved by ABANA.

Do the Rebar twist

by Jim McCarty

Hardly a meeting goes by that Doug Hendrickson doesn't come up with something new. His latest was this nifty rebar twist that looks, well, sort of like you put a lot of effort into doing it when all you really do is flatten the ends, heat and twist. I tried this technique on the fork, which was made at the state fair. It was a lot of fun putting the finished piece out on the table and asking those watching to try and guess how it was done. No one caught on. I also tried other types of rebar but they just didn't look as good.Other uses might include candlesticks, railing pickets, handles for drawers and whatever.



Rivet header

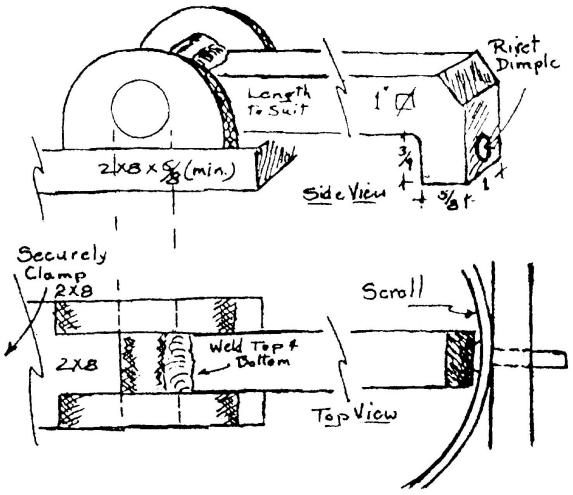
I recently had a railing job for which I needed to support rivets inside of scrolls for heading. After a couple of tries I came up with a solution that worked great and looks to be quite versatile. It's made of 5 main parts.

First is an 8" section of 1" square forged to a dog leg 3/4" long when measured to the inside corner, 5/8" thick and 1" wide. A dimple is ground or drilled near the tip on the outside of the dog leg to cradle the rivet head while heading it. This will be welded to along (5 feet or longer) piece of 1" square. The other end is later welded to a hinge.

The hinge is built of a piece of 5/8" or thicker steel 2" wide and 8" long. Two ears 1/2" thick are needed and must be drilled for a 1" pin. The ears are welded onto the 2" wide strip so the 1" square will fit between them easily. A 2-1/2" long 1" pin is inserted into the ear holes, the long 1" bar is slid between the ears up to the pin and welded together making sure the bar is level (off the table by the thickness of the plate the ears are welded to) and the dog leg is pointed down.

To use the contraption it must be clamped to the table, bench or trestle by the hinge end so the arm can be lifted up in order to position the work underneath. When the arm is lowered on top of the work it should be in position to cradle the rivet head as you head the other side. Good clamps are important but the weight of the tool is more important. Should you make this tool, don't skimp on the stock. Make it as long and as heavy as you can.

—David Court
Reprinted form the Newsletter of the New England Blacksmith Association



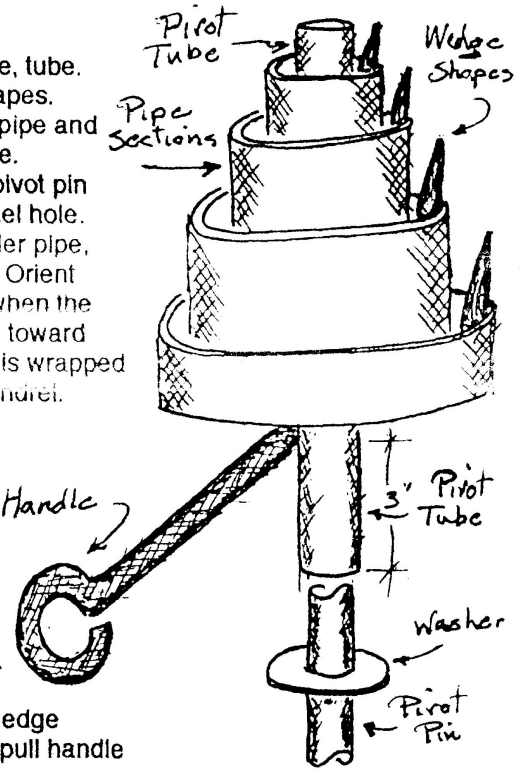
Rivet Header DavidCourt

EZ'S Multi-Size Hook Jig

by Eric Ziner

To Construct:

- Cut pieces of pipe, tube.
- Forge wedge shapes.
- Weld wedges to pipe and pipe to pivot tube.
- Weld washer to pivot pin sized to fit pritchel hole.
- Weld handle under pipe, onto pivot tube. Orient handle so that when the handle is pulled toward self, hook stock is wrapped around pipe mandrel.



To Operate:

- Draw point.
- Form tip of hook.
- Quench tip.
- Seat between wedge and pipe, and pull handle

CHARLIE'S CORNER

This is your opportunity to contribute to the Newsletter. If I don ~ get any questions then there will not be a Charlie 's Corner just a blank space. It's up to you. Your name does not have to be used unless you request it.

Contact me at:240 Dolphin Court, Oakville, Ontario, L6J 5S8.
Phone (905) 842-1599
E-mail csurton@sympatico.ca or give me your question at a meeting.

Question:- *Asked many times by various people at meetings.* What is the proper height for the anvil?

Answer:- There is no "proper height" A lot depends on the work that is to be done on the anvil. Many of you have heard me say that in the shop where I served my apprenticeship the height of the anvil was designed for the striker and not the blacksmith. I show a picture of Dick Wilkinson and his striker Bob Chariton. You will note that the anvil is less than knee
height. Also note the length of Wilkie's hand hammer. This is so that he can reach the work on the anvil and point to where he wants the work to be hit with the sledge. Remember that when using anvil tools the height where the sledge strikes would be raised the height of the tool about 4 to *5* inches.

Some people prefer their anvil to be at about fist height. This alleviates the need to bend over the anvil and consequently helps to avoid sore backs. Some like their anvils at crotch height. This helps if you want to use two hands to work on the job. These smiths will put the work between their legs and this gives them both hands to work with. You can imagine the disaster if the anvil is too high and the work is not sitting flat on the anvil and you strike it hard with the hammer. Ouch!!

So as far as I am concerned there is no set rule, it's up to the individual to set his anvil to suit his own needs and comfort.

Question:- *From George Morrison. I am making a mirror from flat stock bent on edge to a diameter of 18" Do you have any advice.*

Answer:- Just finished a similar job George. It is always a little tricky bending flat bar on edge. As you know when bending on edge the outside of the ring has to stretch and the inside compress. This is easy to explain.

Let assume the stock you are using is I 1/2" X 1/4". Let's say the ring is 18 inches inside diameter, which equates to a circumference of *56.52* inches. The outside diameter of the ring (using 1 1/2' flat stock) equate to 21" this would mean a circumference of *65.94.* Which means that the metal would have to stretch and compress to an equivalent of 9.42 inches.

In order to compensate for this stretching and compression we always add the thickness of

From the Newsletter of the;
Ontario Artist Blacksmith Association

the metal to the inside diameter when calculating a ring. However when bending on the flat we add the width, make sense? The formula for the length of stock would be, Inside diameter of finished ring 18" plus the width of the material
1 **1/2** = 19 1/2", multiplied by Pi or 3.14 = 19 1/2 X 3.14= 61.23. Which is the length of stock required to make the ring.

A quick word of advice. I find it difficult to get the ends to bend to the exact curve so I allow for a 2 inch overlap. This way I can cut through the overlap and get a nice clean joint.

Now to the bend itself. First, lay out the inside diameter of the ring on a piece of flat sheet metal (plywood is no good it will bum). Do this with your dividers set at nine inches an describe an 18" circle. As you bend the ring keep checking against you layout. Making sure that you have it right on the mark before taking the next heat. Make yourself a jig to bend the ring on. I will attempt to draw a rough diagram.

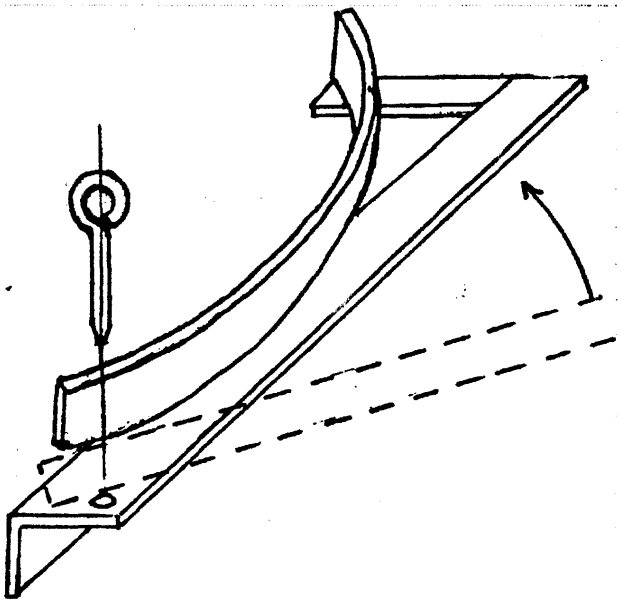
The drawing shows a curved section made to the same inside diameter of your finished ring. This is welded to a piece of angle iron with an extra piece welded to it to keep the curved section rigid. A 1/2" hole is drilled at the end, at a distance that will just allow your material to fit snugly, as shown by the dotted line. A pin made from **1/2** round is then dropped into the hole to hold the material while it is being bent. The jig is then held in a vise by the angle iron. The stock is heated, the pin placed and the stock pulled in the direction of the arrow.

To start the bend, first, bend the end of the stock over the edge of the anvil beck. I like to cool off the corner that I am hitting with the hammer, this stops it from flattening. Check the curve against the layout pattern. When you have about three to four inches curved *start* using the jig to bend the curve. You will find that the material will buckle. Straighten the stock making sure that you do not leave hammer marks, using a flatter helps. Check again with your layout pattern and make any adjustments. Keep taking heats and bending the curve (remember keep the heats consistent metal will always bend more where it is hottest)

After you have bent about a quarter of your ring turn it around and bend the other end forming a "C" shape. Now, close up the "C" and you will have formed the ring. You will find that you have better control *if* you use the "C" and then close.

I hope that I have given some information that you can use and thanks for the question George.

Please keep your questions coming. I may not always be able to give a satisfactory answer and if anyone out there has a better answer please come forward. Remember blacksmithing is an art and there are many ways of performing various functions and more of them are wrong.



From the Ontario Artist Blacksmiths Assoc, The Iron Trillium, Sept/Oct 1999

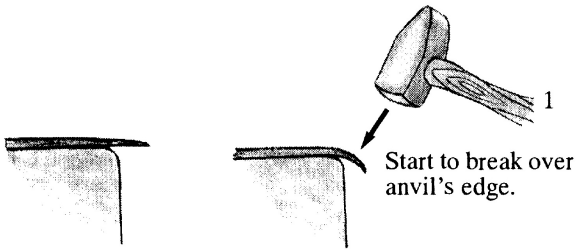
The Scroll

George Dixon, Metalsmith
www.traditionalmetalsmith.com

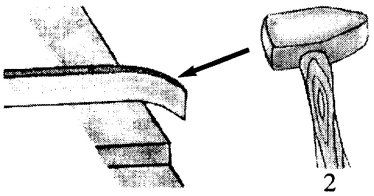
The first step in forming a scroll is to forge the end of the stock into whatever prep shape you want to use. In most cases this includes forging a taper on the bar. The length of the taper has a big impact on how graceful the scroll will appear. The taper and the ever-smaller inward turn of the scroll relate visually. Too little taper and the scroll will appear awkward. So start far enough back to give the taper a long transition.

Too little taper.

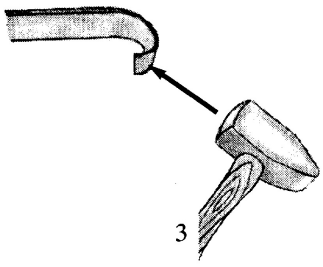
Gradual taper.



Once the stock is tapered take a forging heat and extend the taper out into space over the anvil's edge by about 1/4". Begin to break the tapered bar in short increments as it is progressively extended past the anvil's edge. Keep the hammer blows light. As the curve of the scroll develops increase the length of each increment to create the ever increasing diameter of the scroll. If the bar kinks or the progression seems awkward, either flatten it slightly or open the kinked area with a bending fork and/or wrench.

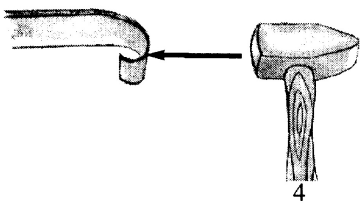


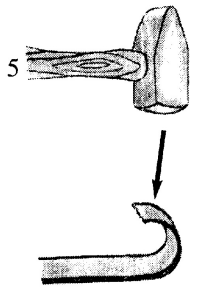
The arrows indicate the direction to strike the scroll in order to develop the effect gradually. Whether the scroll is on its side or back, the direction to strike from is the same.

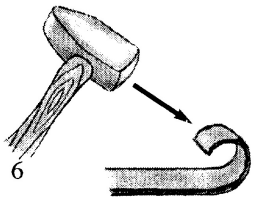


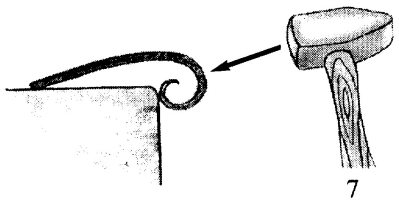
The angle of the hammer blow controls the curvature and progression of the scroll. No matter how detailed the written explanation, there is no substitute for trial and error and correction when learning a process. Using scroll templates to visually compare the progressing scroll to helps.

Working with light, repetitive hammer strokes cannot be over-emphasized. Like drawing a curve with a series of dots, each hammer stroke breaks the flat plane of the bar locally into a continuous curve. To few hammer strokes will give a faceted scroll with each bend appearing as a kink. The same error can be caused by hammer strokes that are too hard.









To tighten or adjust a part of a scroll that is too difficult to reach with a hammer it works well to back-up the part to be adjusted with the anvil while striking the opposite side of the scroll.

Scroll Templates

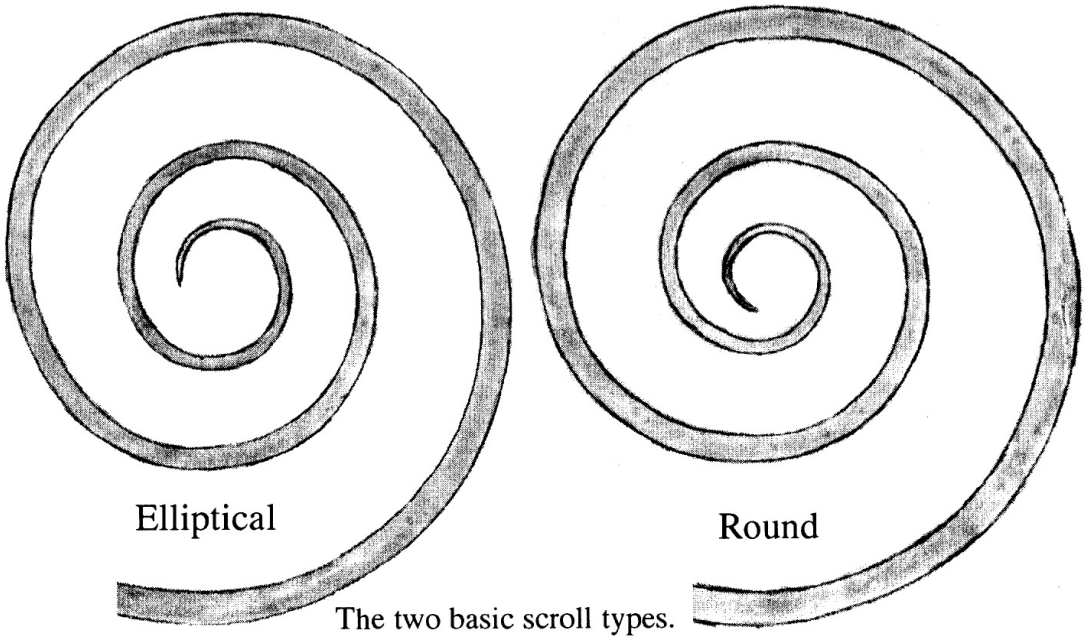
George Dixon, Metalsmith
www.traditionalmetalsmith.com

These scroll templates can be traced or photocopied and sized to fit your design requirements. They can also be used to compare a master scroll forging against before it is welded to a plate in making a scroll jig.

To transfer these patterns onto a sheet of steel, first copy and size. Then rub soft chalk powder onto the back of the scroll pattern paper and lay it face up - chalk side down onto a sheet of steel. If the steel version is to be just a comparative 'chalk jig plate', one that is used to check free-hand scrolls against during the forging process, 1/8" to 1/4" thick steel is sufficient. However, if the steel plate is to form the base of a hot-work scroll jig then it should be a minimum of 3/8" thick. This type of scroll jig has the master scroll form welded to it.

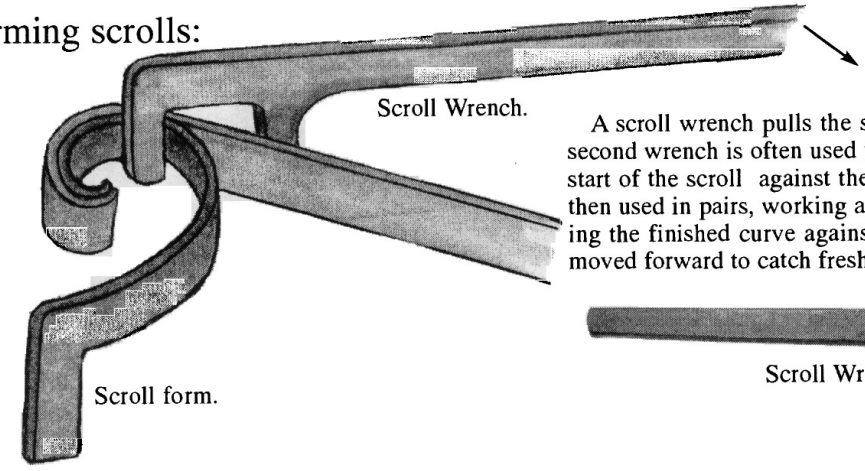
Never quench your jig plates or scroll jigs, let them air cool. If they are quenched hot, they will soon warp and become useless.

There are enough situations that require short runs or require scroll-like endings, on leaves for example, that it is important to learn to scroll metal freehand and by eye before you become dependent on jigs. A freehand scroll can also become the comparative 'visual jig' for a subsequent short run just by doing each of the run in sequential stages that are held against the first, or master scroll as they are formed and adjusted. This skill will save a lot of time when a large number of parts is not required and thus a jig would not be cost efficient.



The two basic scroll types.

Forming scrolls:



A scroll wrench pulls the stock against the form. A second wrench is often used to 'lock' (by leverage) the start of the scroll against the form. The wrenches are then used in pairs, working around the form, one holding the finished curve against the form as the other is moved forward to catch fresh stock.