SOFA SOUNDS

SOF&A SOUTHERN OHIO FORGE & ANVIL

Artist-Blacksmiths Association of North America April / May 1990

MARK YOUR CALENDARS: Unless otherwise noted, all meetings will be held at the Studebaker Frontier Homestead on Rt. 202, about 4 miles north of I-70 near Tipp City. Please don't park on the grass, or block access to the production buildings. Donations of items for the newsletter support raffle are always welcome. Please bring your work or tooling for display. The public and guests are welcome. Finger food and cold drinks to be provided on a break-even donation plate basis. The forges at the homestead are available before or after meetings for individual projects.

April 7th, 1990 — Business meeting followed by a demonstration by Robert (Bob) Zeller on the making of Tomahalk. You can count on a great time and a bit of blacksmith Lore from Bob. He always has something interesting that he pulls out of his hat.

May 12th 1990 (2nd Saturday of the month) — Business Meeting followed by a Hammer Along on the basics of blacksmithing. The Hands on event will be located in the " U " forge area. If you have been wanting to try some blacksmithing, introduce the black Iron craft to a friend, show one of your tricks, or just mentor from the side lines to a willing, unexperienced believer in the old ways, this is a day you will not want to miss. There will be basic tools, vices, and forges set up along with materials for your efforts.
Special Note: If you have a bit of spare time before or after the event we could use a bit of help setting up and cleaning up.

June 2th, 1990 — Business Meeting followed by a unique demonstration by Bob Cruikshank. He will be sharing some of his methods on making "Quick-Sale" Items. I am not sure at this time what products he will be making for us, but I am sure these items will be great ideas for gifts as well as for sale.

July 14th, 1990 (2nd Saturday of the month) — Business meeting followed by Animal Head Workshop. Ken Scharabok will lead a workshop (with four(4) forging stations) for the type of animal head he specializes in. Ken will form a head and then lead the first four(4) people to sign up for the workshop on the making of a similar type of head. For example: (Goat, Ram, Texas Longhorn, Gnu, etc). **To sign up for the forging station call Ken at 429-3967 A.S.A.P.** Please note: This is the 2nd saturday in July not the 1st weekend.

ATTENTION, NOTE, LOOK, TAKE NOTICE, MARK YOUR CALENDARS!

The NORTHWEST OHIO BLACKSMITHS will holding their N.O.B.4th Annual HAMMER-IN at Auglaze Village, located in Defiance, Ohio. For details on cost, the nature of events, and directions contact John Polakovic,SEC/TRES, 40 Applewood, Oregon, OH 43616. It is sure to be a great event. Hope you can make it!

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Demonstration: February 3rd, 1990 Octopus Coat Hooks

Ken Scharabok started the Octopus coat hooks by heating a 1/2 inch bar and cut the eight(8) rods for the arms five (5) inches long on the Hardy Tool. If you recall, when metal is cut on the Hardy the piece removed will have a taper on the end as compared to the square 90° cut of a hacksaw cut. This taper will provide the begining of the rounded head shape that will later be formed.
Heat and taper the eight(8) arms, 8 inches long.

Using Duct Tape, Ken stacked the eight arms plus the ninth filler rod into a square shape and tack welded them together. This will help prevent the mass from falling apart in the fire. The square shape will allow you to make a more rounded head instead of the flatter head shown in the illustration. Don't forget to remove the Duct Tape before you heat the mass.

With tongs, hold one of the outer tapered pieces. This should provide more stability while forge welding. Ken used two (2) types of flux:

1) Borax: Used on the inside of the mass because it becomes liquid/glassy. It will soak into and around the pieces in the center of the large mass.
2) Easy Weld: Placed on the outer surface of the mass because it will stick to the outer surface of the metal. The best way to tell when Easy Weld is ready to weld is when the iron filings in the mix become molten. If you can judge the heat of the mass to the filings in the mix, you should have the makings of a clean weld.

Begin forge welding the head of the Octopus. The four(4) center pieces of the head will become compacted as you hammer. The center pieces will stay about the same. After forming the head into shape choose the side you want to become the front. NOTE: One advantage of forging a large mass is that it will hold your forge welding heat longer.

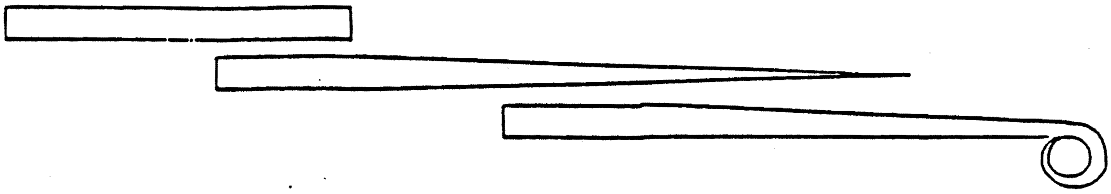
Using a oxy/ace torch unit, heat each arm and bend to shape. Bend the five(5) arms on the front and side for the coat hooks. Try to keep the bends smooth and graceful With the tip of the torch, direct the heat. Using tongs, small pliers, and an occasional tap of a hammer, produce the rounded tips to hold the coats. Make sure the last three(3) pieces are formed the same way. The arms must lay flat to allow proper mounting. Place screws into the tips of the arms to make sure they will mount the correct way.

Punch in the eyes with a concave tipped punch. Start low and hammer upward to produce the sockets.

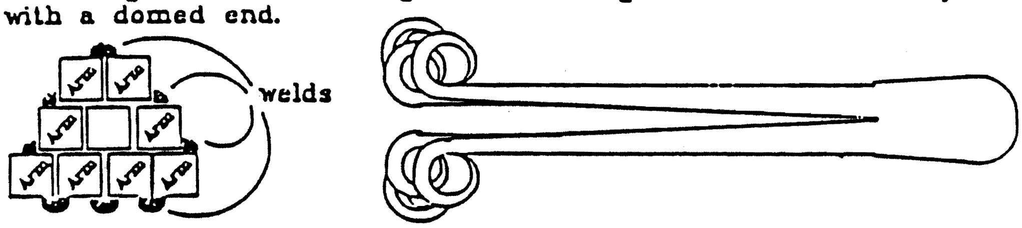
Octopus Coat Hooks

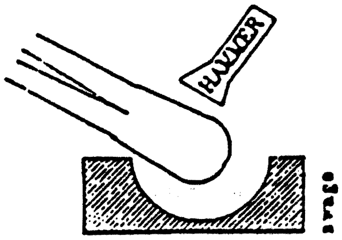
S. A. Bloom

1. Using 1/2" square stock, prepare 8 pieces 5" long & 1 piece 2" long. Using the 5" stock, forge the terminal 3" into a gradual taper apprx. 8" long. Round the taper & curl the end.



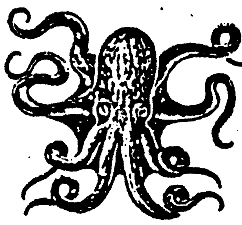
2. Bundle the 8 arms around the 2" piece, arc-weld the arms together, then forge weld into a single mass. Forge the head into a cylinder with a domed end.



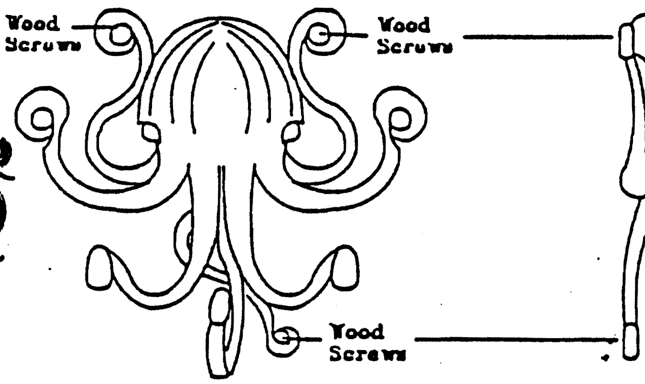


3. Using a hemispheric swage block, dish the head slightly. Form an eye with a round eye punch & add a horizontal pupil slit.

4. Shape the lateral rear arms & a center rear arm into attachment points. Shape the rest into protruding hooks (a torch will help).



OCTOPUS (4-8 ft. across)



Use 3" for 1/4" stock => towel racks
Use 4" for 3/8" stock => hat racks
Use 8" for 3/4" stock => hercula
Possible Alternative
Uses:
key ring holders, business
card display/holder, ferric sushi

There was a different type of activity going on next door in the blacksmith shop. Ken Scharabok was not the only person showing off creative genius. Dick Franklin and Ron Van Vickle where surrouned by a young group of future blacksmiths. Here is Dick's account of the activity.

P.S. Thank you Dick for helping me by typing up the following article.

Ron Van Vickle and Dick Franklin gave an hour long demonstration to a den of Cub Scouts and their parents. You may find the approach we used to be a good starting point when you demonstrate for a group of youngsters.

We began by building the fire and showing the kids the coal and explained how it is changed to coke which we explained burns clean and hot. We passed pieces of coal and coke among the boys so they could handle it and feel the differing weights. We explained the weight difference resulted from the gray green smoke they could see coming from the fire.

The boys participated when doing so illustrated the point of the demonstration. For example, to demonstrate the effects of heating the steel until it is red hot, the largest boy of the group was asked to bend cold a round three eighths inch steel bar that was held in the vice by one end. He tried, but of course he couldn't. We heated the end of the bar, clamped it back in the vice and positioned our hands so that the smallest boy of the group could not grab the hot area and asked him to bend the bar. To everyone's delight, he bent it double. Lesson, the red heat makes the bar easy to bend.

We heated the bar to burning temperature. The kids were delighted with the sparklers, but we explained that the burning steel got weak.

We asked the boys what would happen if they pushed a rod of play dough between two fingers. They guessed that it would bend and get fatter. We demonstrated upsetting steel to show them that the same thing happened.

We demonstrated how to point the rod with the hammer and anvil. Since we had a power hammer available, we showed them how much quicker is was to use it. They felt the noise and vibration was awesome.

We showed them how nails were made, and made a nail for each of them that they carried away with them. If they are like I was at that age, those nails will be around fifty years from now. We told them the folk lore that settlers would burn down their cabins when they were going to move on to recover the nails. I hope that its true!

We welded a link of chain, being careful to position ourselves between the anvil and the kids, actually with our backs to the kids, so as to shield them from the hot flying sparks. We gave the completed link to the leader who said that they would work it into their den totem.

The demonstration took over an hour and we still had the kids attention.

Both Ron and Dick got a great kick out of performing for the kids. The kids were responsive and interested. We both recommend that you entertain one of your local youth groups. It is just possible that one of these kids will be one of the people who will carry the art of blacksmithing into the Twenty First Century.

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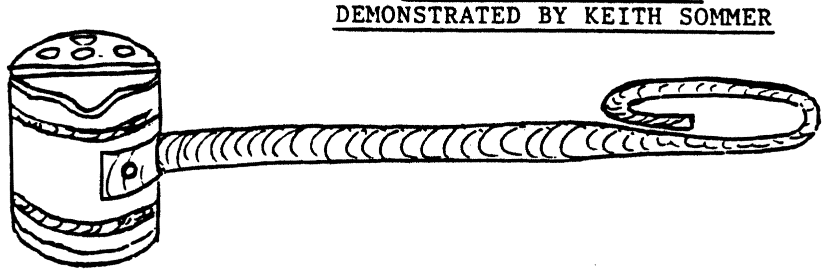
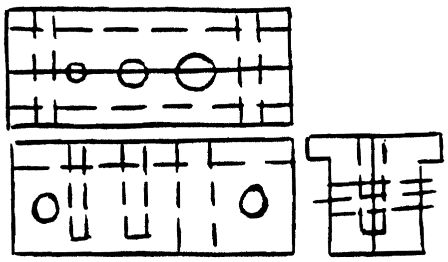
COPPER WATER DIPPER
DEMONSTRATED BY KEITH SOMMER



RIVET MAKER



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Demonstration March 3rd, 1990   Copper Water Dipper

Keith Sommer gave a fine demonstration on the making of copper water dipper that can be used to used to cool your forge fire. Ken has made several of this type of dipper over the past couple of years for the S.O.F.A. raffle. This dipper is as attactive as it is functional.

Materials: 2" copper water tubing - For the dipper container.
1/2" or 3/4" copper tubing - For the handle
Short piece of copper electric wire (approx. 1/8" dia.) - For the hand made rivets.

Cut a 3" to 4" piece of the 2" watwer tubing. Anneal by Heating the tube to cherry red. Quench the tube. This will soften the copper. Remember,copper and brass acts the opposite of iron and steel.

Using a beading machine, bead both ends to produce a decorative design. Be creative. A few passes may be needed because of the heavy gauge of the copper. As you bend the copper, it will become compressed and work hardened. It may be necessary to re-anneal once again before finishing your design. Note: The thicker the material, the slower the bending operation will be. Try not to over work your beading machine.

Handle:
1) Take one piece of 1/2" or 3/4" copper tubing 24"-30" long. Heat and flatten one end of the stock down flat about 8"-9" in from one end. Produce a half scroll/crul shape to form a comfortable handle. You could be as creative on the handle as you would like, but remember this is a tool. **SAFTETY NOTE:** Poor water over a tube. Never quench into a tub of water because steam will be forced up the tube. This can cause a severe burn on your arm or shoot steam up into your face.

2) Cut in half the end of the handle that will be riveted to the dipper about 1 1/2"-2" down from the end of opposite the handle. This cut must be produced

at perpendicular to the handle. This will be the area where the rivets will be placed. Bend the two(2) separate sides back 90° from center. A "T" shape will be formed. You must be careful when making this bend. If you are not watching close, a split may occure. A small hole can be drilled before cutting to reduce the forces produced when bending. File to remove all sharpe edges. Make sure your two(2) sides look even when placed up aginst the water tube. Contoure the pieces so they will lay flat on the tube.

3) Drill the two(2) rivet holes in the handle. It may be wise to make a center punch mark before you drill. Drill through the first hole in the water dipper and slip in a short piece of the copper wire. This will guide the drill placed in the second hole of the handle to insure proper removeal of the stock drilled out of the second hole in the water tube. This effort on your part will make sure the four(4) holes match each other.

Rivets: Keith used a fixture for making his rivets (SEE ILLUSTRATION). This handy tool allowed him to make duplicate rivets without heat. It would be a good idea to make several rivets so if you have trouble, you will not have to go back and re-setup your fixture. Rivet stock and solder with 50/50 solder. The solder will reinforce and make your waterdipper water tight.

Caps: Cut a piece of the 2" tubing 4"-5" ling. Cut down the length. Open up the tube by placing on the end of the horn. Hammer to spread the tube into a sheet. You should not need to use heat for this operation. Hammer flat on the face of the anvil. Heat and anneal the sheet. Flatten with a Flatting Hammer. Once the sheet is flat, scribe two(2) circles using the round dipper tube as a pattern. Cut and file to remove sharp edges and oxides. Take one disc. Solder it to the bottom of the water dipper. Cut the other disc in half. Solder it to the top of the dipper. Make sure you solder it so the edge of half moon shape is pararall to the length of the handle. Drill a few holes ito the half moon disc to make a sprinkler. Form a spout on the other side perpendicular to the handle. This combination will let you sprinkle from one side and pour from the other.

SPECIAL INFORMATION:

Use zinc/cloride flux on the copper tubing. If you were do electrical soldering use resin core solder.

When soldering your caps, heat on the inner edge of surfaces to draw the solder inward. This is called capillary action. You will be able to tell if your solder is holding when you see streaks of solder moving inward on the inside of the cap.

THE CODE OF COPPER TUBING:

K - Green ink - Best Grade/Thickest
L - Blue ink - Medium Grade
M - Red ink - Lowest Grade/Thinest

AN INTERESTING FACT ABOUT COPPER AND ACETYLENE:

When acetylene is stored in a copper tank, it can become a dangerous hazard. The acetlene will absorb into the copper. If the container is dropped and fractured it could explode and shatter.

HEAR YE! HEAR YE!

FOR SALE: 50 lb. Little Giant Power Hammer. Excellent condition.
For information, call Larry Woods at 513-233-6751 or call John Salley at 513-698-4588.

FESTIVAL, FESTIVAL, FESTIVAL, FESTIVAL, FESTIVAL

SUGAR MAPLE FESTIVAL IN BELLBROOK OHIO: The dates of the event are Saturday April 21, 11a.m.-6p.m. Sunday April 22, noon-6p.m. They are in need of Blacksmith volunteers.They would like to have five(5) blacksmiths over the two day event. They have built a new blacksmith shop which has an Anvil and Forge in place. You may bring your work with you to sell at no charge to you, but you must bring your tables for display and sales. For more details contact Royce King, Park Chairperson 513-848-8059.

Woodworker's Supply:(5604 Alameda Place NE, Albuquerque, NM 87113 1-800-645-9292) carries the following items: In-line air flow gates - 4" $14.95, 6" $17.95 and Baldor motors (5/8" shaft, 115/230V single phase) 1 HP $125.00 1 1/2 HP $165.00 and 2 HP $220.00. Call for Free catalog.

NOTICE: If you occasionally need spot heating of small items, but cannot justify a small oxy/ ace unit, buy a 14 oz bottle of Propylene Fuel which produces 3,600° F and uses regular propane nozzels, etc. The cost is about $7 per bottle and available at most hardware stores, building supple centers, etc.

NOTICE: Part of Russ Swider's demo. at Quad-State '89 was quenching mild steel in a lye solution to harden the mild steel to near tool steel utility. The solution was 12 ozs of regular dry lye to one(1) gallon of water. Russ said the process is still not understood but apparently the lye quench is so fast it compacts the mild steel structure far tighter than other quenches. This is useful for making limited use tooling as the mild steel is far easier to forge and the lye quench hardening allows them to perform like those made from regular tool steel.

Blacksmithing Workshop: A workshop with Frank Turley will be held June 24-30, 1990 at the Bear Mountain Outdoor School located in Hightown, VA 24444. Contact Thomas Brody, Director at the above address.

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REMOVING ZINC PLATING: Galvanized (zinc plated) hardware should never be forged since the fumes from the burning zinc are highly poisonous. To remove the zinc plating, put the item(s) in Muriatic Acid (used to clean masonry and available in hardware stores) for about 10 seconds. Use a very small amount of acid and handle the object(s) with plastic or wooden tongs. Rince pieces in water, then heat to dull red to oxidize them to black. ALWAYS HANDLE ACIDS PROPERLY AND WORK IN A WELL VENTILATED AREA. (By Brad Silberberg from the newsletter of the Blacksmiths' Guild of the Potomac). (Info provided by Ken Scharabok).

TOOLS AND TECHNIQUES OF THE CUTLER IN FRANCE IN THE EARLY 1800s.

James L. Kirkland

By 1800 high quality carbon steels were being used to manufacture a wide variety of products (see the accompanying figures). These bore a remarkable resemblance to today's cutlery products. The shop facilities to produce these had changed little since the 1500s, and were nearly identical to those used for general blacksmithing and locksmithing: the traditional forge and bellows, anvil, vise, grinding wheels, and hand tools. Power was supplied either manually or by a water wheel.

Aside from the regular day-to-day products being produced, there was considerable research being conducted, both practically and scientifically, in reproducing the method for producing Damascus steel, the "figured steel" named for the place where it was first encountered (Syria).

The Persians produced Damascus blades as early as 540 A.D. These blades were renowned for their elasticity, texture, and cutting ability, and the process for producing them was kept a secret. Their success was attributed to the special steel used. One unusual piece of Damascus cutlery was the saber of Ali, preserved in the treasury of Ispahan, the ancient capital of Persia:

> This astonishing saber is a steel blade thirty feet long and six inches wide and not very thick; a strong man would have trouble carrying it. On the tenth of the sacred month of Moharam, we carry the saber in a great ceremony, for the solemn procession of E'yd-a'chour, the anniversary of the massacre of Ali and his children [1].

In 1800 the process for making Damascus blades was still unknown; it was suspected that their high quality was due to the use of wootz, a steel from India having a density of 7,200 and containing, according to an analysis by Faraday, silicon and aluminum, rendering the steel more crystallizable. Experiments by Faraday, Stodart, and others tended to demonstrate that the Damascus steel was a cast steel with more carbon than European steel and that the Persians employed a tempering process that produced crystallizations of two distinct combinations of iron and carbon steel (two distinct materials were present).

Aristotle provided this brief description of the manufacture of wootz:

> It is produced by heating on a charcoal hearth about one pound weight of malleable iron, cut into small pieces, with about 10 per cent of dried wood, in clay crucibles, the covers of which are luted with clay. [p. 8]

By 1835 the art of producing Damascus blades had been lost and Damascus blades of that time were fragile and otherwise inferior to the older blades.

Clout, in his *Art of Making Figured Blades*, gives these instructions for making Damascus steel [2]:

1. To make figured blades we draw the steel in very thin laminations or in thin rods of different shapes. These rods are united in a bundle and welded together using a wood-charcoal fire. The steel must be protected from overheating by a coating of clay or sand. Otherwise the characteristics of the steel will be altered and possibly the desired design will be destroyed.

2. To make figured blades it is necessary to use the best quality steels. We may also incorporate iron provided it has been well-compressed under the hammer and has elongated filaments and tenacity. If the blades are to be very elastic and tough we use only steel in their fabrication. We are able, in the meantime, without degrading their quality, to use iron in the part near the hilt, which need not be springy, but also in the rest of the blade. We can also augment its hardness if we always use, sparingly, excellent iron that has been well-compressed, and if we work it carefully, we retain the characteristics of the individual materials. This multiplicity of metals, iron and steel, also makes the design more apparent. In any case, we must not overheat the materials. The final use for the blade determines whether we use such-and-such types of steel and the portion of the iron that may be used with the steels.

3. The iron for figured blades must not only be first quality but it must have been worked well and have tenacity and a filamentary structure. Then the portion of the iron that is introduced gives body to the steel that forms the cutting edge of the blade. In this case we make the blade from three pieces: two pieces of iron with one piece of steel between them. We may use steel alone for the entire blade. If this is the case, it is better to use fine steel for the cutting edge and lesser quality steel for the outer layers. All of the steels used for the blades must be well-compressed except cast steel.

4. We see that for figured blades it is necessary to use steels of different qualities, for example, fine steel or spring steel, or of well-compressed iron. We could use only high-quality steels but it requires great attention to their welding. To prepare the materials, it is necessary to draw some very thin laminations not over two millimeters thick by

twenty-five millimeters, at least, wide. We form bundles of these laminations, twelve laminations at least, placing alternately a layer of spring steel or of iron, then a layer of fine steel. The outer laminations should be of the lesser grade of steel or of iron to make the design sufficiently clear. For this method it is necessary that at least eight laminations are welded together. This is easy to perform in two operations. The first operation can produce a bar of twelve laminations. In cutting this bar in three pieces, and welding these three bars together, we produce a single bar of thirty-six doubles or thirty-six parallel laminations. We may also compose these bundles of little square bars or of rods fashioned in swages and having different shapes following the design that we wish to produce on the finished blade.

5. We fasten together all of these laminations or little rods having different shapes, by means of square or cylindrical rings, following the shape of the bundle that we wish to weld, and then grip them with wedges, to bind them together solidly. Then, we heat the end carefully and coat it with a layer of clay to weld it; we manage the fire carefully giving the heat time to penetrate. When the end is sufficiently hot, we weld it, then we go to the opposite end and perform the same operation. The middle then becomes easier to treat, the two ends being securely fastened.

   Above all it is necessary not to overheat the work. The beauty and quality of these blades consists principally in this: it is necessary that each of the materials retain its natural properties. It is necessary that the steel retain its own quality and the iron its own; if the temperature is too high they blend together.

6. The general method to obtain figured steel, and to give it the desired solidity, is to perform the welds along the lengths of the laminations. Laminations welded obliquely will not be solid particularly if we encounter some poor welds. We know in general that iron and steel resist less across their width than along their length; also we are not able, with confidence, to take advantage of a method similar to that which we employ for the mosaic, to make the blades. Otherwise the work would be difficult and long. But we can reach this same end and produce this same or a more beautiful effect in following the ordinary method of forging the iron and steel along their length and to weld them likewise. In this manner we compose the bundles that are to produce the designs, form prisms or cylinders fastened against each other, which is easy to do. When the bundle is formed or welded, we twist it around its axis a certain number of times to produce the desired design that we wish to produce on the blade.

7. It is not always necessary to twist the bars of prepared material to produce certain designs. The bars composed of parallel laminations are able to give a great variety of figures formed by lines by which the outline is bounded and which are enclosed one inside the others. These figures are obtained easily by engraving, with an engraving chisel, hollow groves across the blade. We cut thus a certain number that will show up in the place engraved, when we forge the bar to thin it and for the blade. We are careful not to perform this operation on a bar that is too thin, and we engrave the design smaller than it is to appear on the finished blade.

8. This method, engraving, although capable of producing a great number of designs, does not give all those that we would like; but we are able to produce them by the following method that consists of twisting, a certain amount, some bars composed of several rods of different shapes determined by the design that we wish to produce on the blade, and to divide in two this bar, along its length, by a section, a plane, that passes through its axis of twist. It is in this plane that we find the desired design. This is in the middle of the bar and this plane must pass through the axis of twist. This is the place where we find the most space to place the designs. Meanwhile, although the plane of these figures passes through the axis of twist, it is necessary to take care that the figures are not cut by this axis. If the figures are too near or too far, they disappear. In taking them not too far from the axis they will have more regularity and will be easy to fabricate.

   The method to twist and to split the twisted cylinder or prism will make to disappear, in the section that passes through the axis of twist, all of the veins and nuances of iron and steel that we are able to encounter there, in the fashion that a bundle composed by chance of steels of different qualities, will give a design more or less streaked and mottled, according to the thinness of the veins that we encounter there. To split, after twisting the cylinder or bundle of rods, it is necessary to flatten it and give it a width of at least twice its thickness. Then, with a thin chisel, divide it while hot along its length following this twist axis. Meanwhile, it is necessary to observe that if we want to obtain the exact design that we have planned, it is necessary to make on of the halves a little broader than the other. This excess thickness can be removed by the fire, the file, or by grinding. As for the piece of lessor width, it will serve to make a blade with a design that is less precise.

Clouet goes on to say that these two methods—stacks of laminations or bundles of rods welded together—can produce very good blades provided that the steels used are well-compressed under the hammer. This hammering process could be performed cheaply in shops powered by water wheels, which was the case in most of France in the early 1800s.

We should also note that Clouet warns against the necessity to compress cast steel by hammering (see step 3 above). Crucible steel, cast steel and wootz were produced by melting the steels thereby forming a compact structure not ordinarily enhanced by hammering. To the contrary, cementation steels, or others having a coarse structure, might be enhanced by the hammering that Clouet refers to.

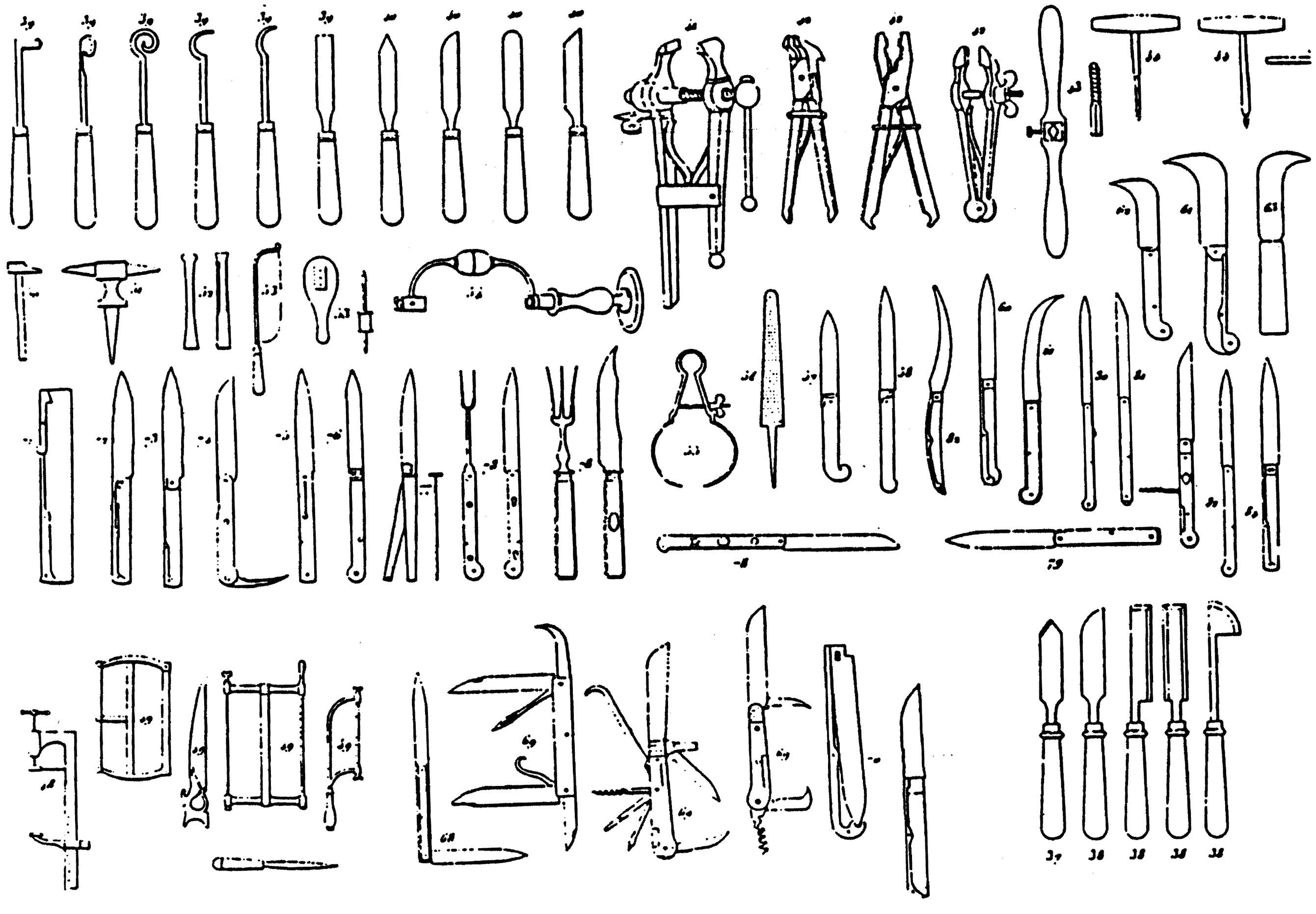
The "iron" referred to is wrought iron. The "spring steel" referred to is probably that produced by cementation.

The early 1800s is an era of transition between the water-powered and steam-powered furnaces and factories. At the same time, the studies by Reaumur and others provided a better understanding of metallurgy particularly of iron and steel. After 1850 the work of Siemens, Bessemer, Kelly and Thomas led to the large-scale production of mild steel. The process did not immediately replace crucible steel, which was still used for tools and armaments, but mild steel replaced wrought iron. Mild steel is, after all, approximately wrought iron with the slag removed.

Today, highly uniform steels are available and heat treatment methods are well established for them. To reproduce Clouet's method for laminated blades (see step 3 above) I recommend a low-carbon hot-rolled sheet steel (carbon 0.4%-0.5%) for the outer laminations. The cutting edge could be AISI W1 or W2, carbon about 1.00%. These grades can be oil or water hardened at approximately 1425 degrees F. These materials are easy to obtain.

[1] J. S. Jeans, *Steel: Its History, Manufacture, Properties and Uses*, London, 1880.

[2] J-F. Clouet, "Instructions sur la fabrication des lames figured, ou des lames dites Damas," *Journal* des Mines, Ann. 12, 1803/4, 15, 421-435. (The author, Jean-Francois Clouet [1751-1801], was a French chemist who developed a method for producing cast steel for use by the French arsenals.)



FROM CUTLER'S MANUAL PARIS 1835

ABANA

Artist-Blacksmiths' Association of North America

P.O. Box 1181, Nashville, Indiana 47448
Executive Secretary, Janelle Gilbert

Office Hours: 7:30-11:30am & 1:30-4:30pm
Phone: (812) 988-6919

PRESIDENT'S MESSAGE
March 1990

Dear Chapters,

I'm not sure about all of you, but I wish Spring would hurry up and arrive. We've been running between flooding rains and arctic snow. Looks like the rest of the country is in the same vein.

The ABANA Board announces its new board member, David Norrie, from Ontario Canada to fill the vacant position. ABANA has not yet had the distinction of a board member that represents our northern neighbors. They have a large number of blacksmiths up there who are spread out all over the upper continent. All of you who voted for David in the 1989 ABANA Fall Election will be especially pleased. David's address and phone number are as follows:

David Norrie
R.R. #3
Stouffville, Ontario
L4A 7X4 Canada
ph: 416-640-3310

Welcome aboard David!

The 1990 ABANA Conference Committee is mailing your pre-registration packets soon. We hope you will be pleased with the agenda. Remember that there is a substantial savings to all who pre-register, so you may want to take advantage of this opportunity. There will be a tour to Albert Paley's studio in Rochester and limited space is available for this trip. The early pre-registered people will be assured a space. Be working on your projects for the gallery. Articles for the main exhibit need to be sent to the conference site earlier in the month to be photographed and placed in the gallery. This will allow for immediate gallery showing. There will be a second gallery of works brought to the conference at the time of registration. Unfortunately, the second gallery will take a couple of days to set up but will be worth the wait if you find you will have a late entry.

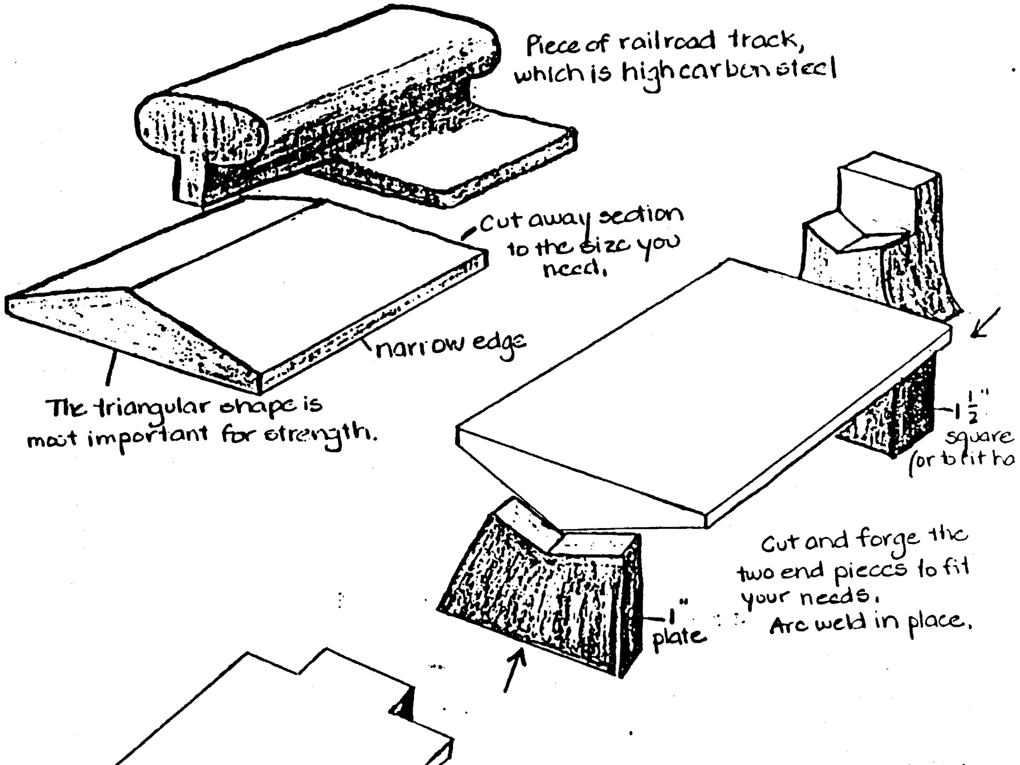
I'm looking forward to seeing you all at Alfred State and I'll be giving you an update next month.

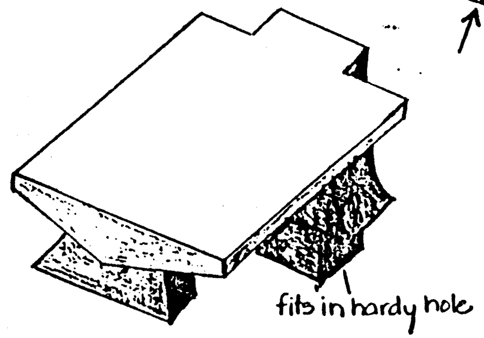
Warm regards,

Dorothy Stiegler
Dorothy Stiegler
ABANA President

DES/jrg

Mike Kudzinski's Small Bridging Table





The overall length, height & size of the section for the hardy hole will depend upon the size of your anvil and the type of work you intend to use on it. The narrow edge makes this ideal for smaller intricate pieces of work, such as floral designs.

- <u>REPEATING TWISTS</u>: When a recent project (two pairs of driveway gates) required making 32 pickets of 1/2" square with a twist exactly 3" long and exactly 7" from one end of each piece, I made a set-up which made all the twists alike. First, a twisting wrench was made by drilling a 1/2" hole in the middle of a bar of 3/8" x 1" and filing it out square. A section of 3/4" I.D. pipe was cut 6 5/8" long and welded onto the wrench directly over the hole. A piece of scrap plate was then welded over the open end of the pipe. When the wrench was slipped over the end of a bar, the underside of the wrench was at the desired 7" position. A much simplier bottom-stop was set up by clamping the bar to be twisted in the postvise so that 3" was exposed between the vise and the wrench, with the bottom of the bar supported off the floor at the proper height. By taking the proper heats and counting the revolutions of the wrench, all 32 pieces came out the same. An additional 64 pieces, 6" long with a 1 1/2" long twist were also produced for the same gates by making two similar wrenches with 2 1/4" depth stops and locking one of them face up in the vise. (By Brad Silberberg from the newsletter of the Blacksmiths' Guild of the Potomac). (Typed by Ken Scharabok)

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SOFA SOUNDS
c/o Bud Rupe
2812 Chinook Lane
Kettering, Ohio 45420

<u>NOTE:</u> YOUR SOFA MEMBERSHIP EXPIRES WITH THE DATE ON YOUR LABEL.

Richard A. Franklin
7158 Klyemore Dr.
Dayton, OH 45424

Membership Expires: 6 / 90