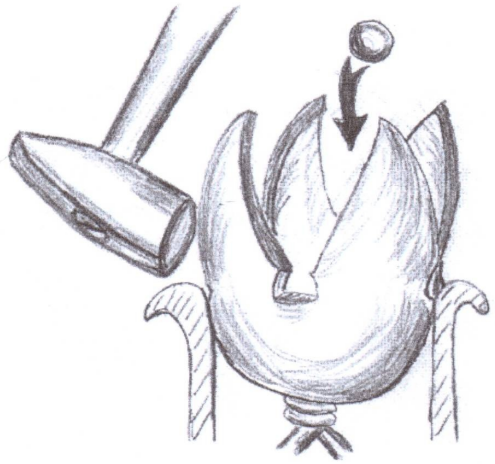
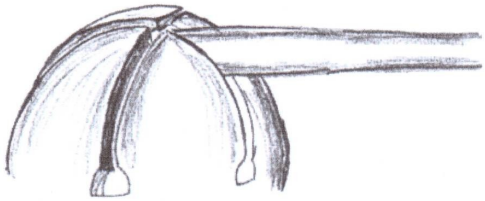
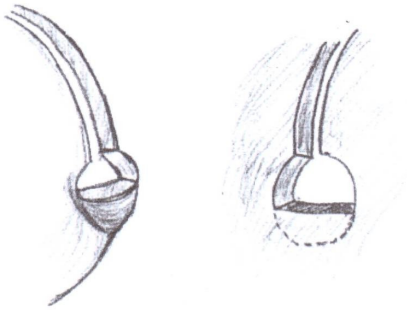
Place bell in forge with petals down and heat to bright orange. Set bell in pipe swedge, insert ball bearing (3/8 to 7/16" for small bell 1/2 to 5/8" for large bell) Hammer petals closed with gentle blows near their base.



Space petals with thin tapered chisel/fuller while using a hammer to close them.



Completed bell has a bulge where the metal has been upset between the petals and the hole at the end of the slots is not round but flat on the bottom. You may choose to leave the bell like this or remove it. It does not seem to have much affect on the sound of the bell. First file or grind the bulge flush following the contours of the bell. Next. with a round file or die grinder. round the bottom of the hole.



The bell should be heated again to critical temperature(non-magnetic) and quenched to improve its ring.

Options for the bells include using a nut and bolt in place of the ring to fasten the bell(s) to a leather strap. You could also drill and tap the base of the bell to accept a bolt for this same purpose.

Materials List for Bells

Tools

Top Swedge

Trailer Ball or Ball Bearing

Large Bell – 2"

Small Bell – 1 1/2"

10-12" 3/4 round for stem

Bottom Swedge

Pipe with top edge rolled

Large Bell - 2 3/8" ID

Small Bell - 1 3/4" ID

Angle Iron for base in vise

Hardy Stem for use on Anvil

3/4" round end Fuller

1/2 -3/4" wide thin tapered Fuller

Bells

Blanks cut using template on following page

6" 1/4 inch round for stem/ring

Ball bearing for Ringer

3/8 to 7/16" for small bell

1/2 to 5/8 " for large bell

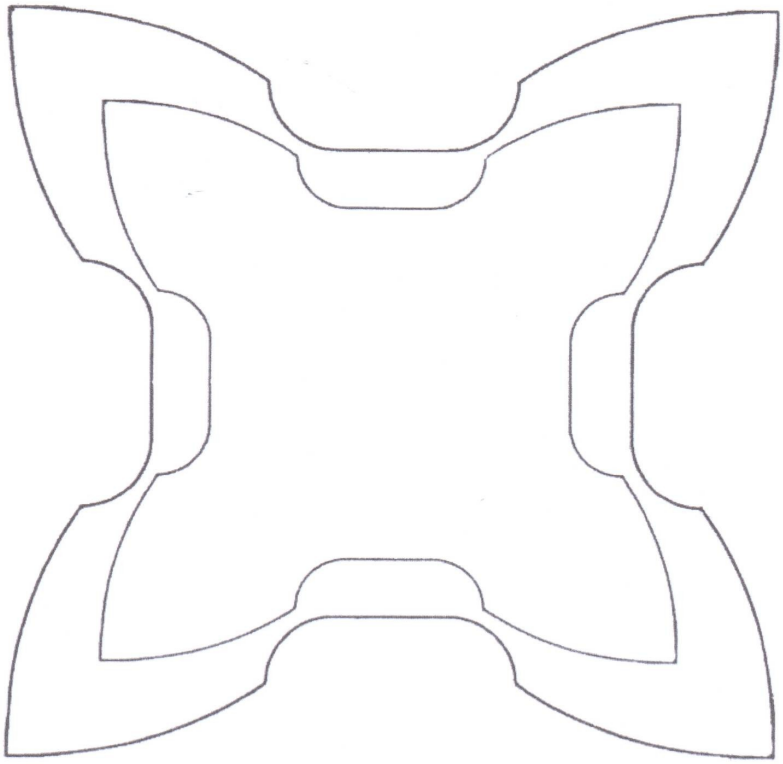
Copper Wire to forge braze Stem to bell

This article is based on a article by Steve Alling that appeared in the Nov-Dec 2005 issue of The Upsetter, the newsletter of the Michigan Artist Blacksmith's Association.

Scale Drawings for Bell Blanks

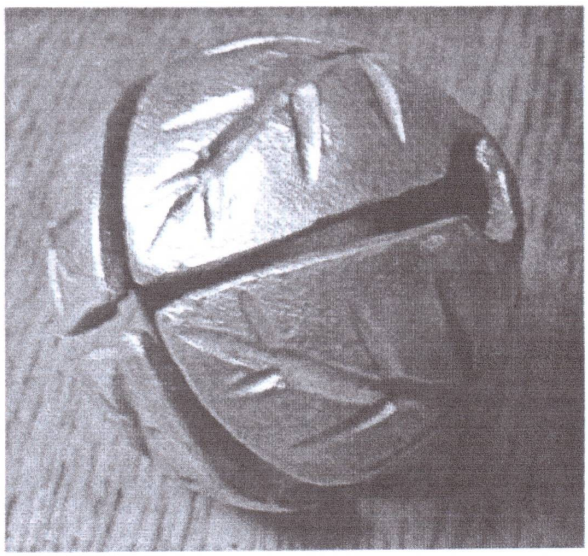
Large –measures 6 1/2 "diagonally corner to corner – use 3/16" (7 Ga) Stock

Small –measures 4 7/8 " diagonally corner to corner – use 1/8" (11 Ga) Stock



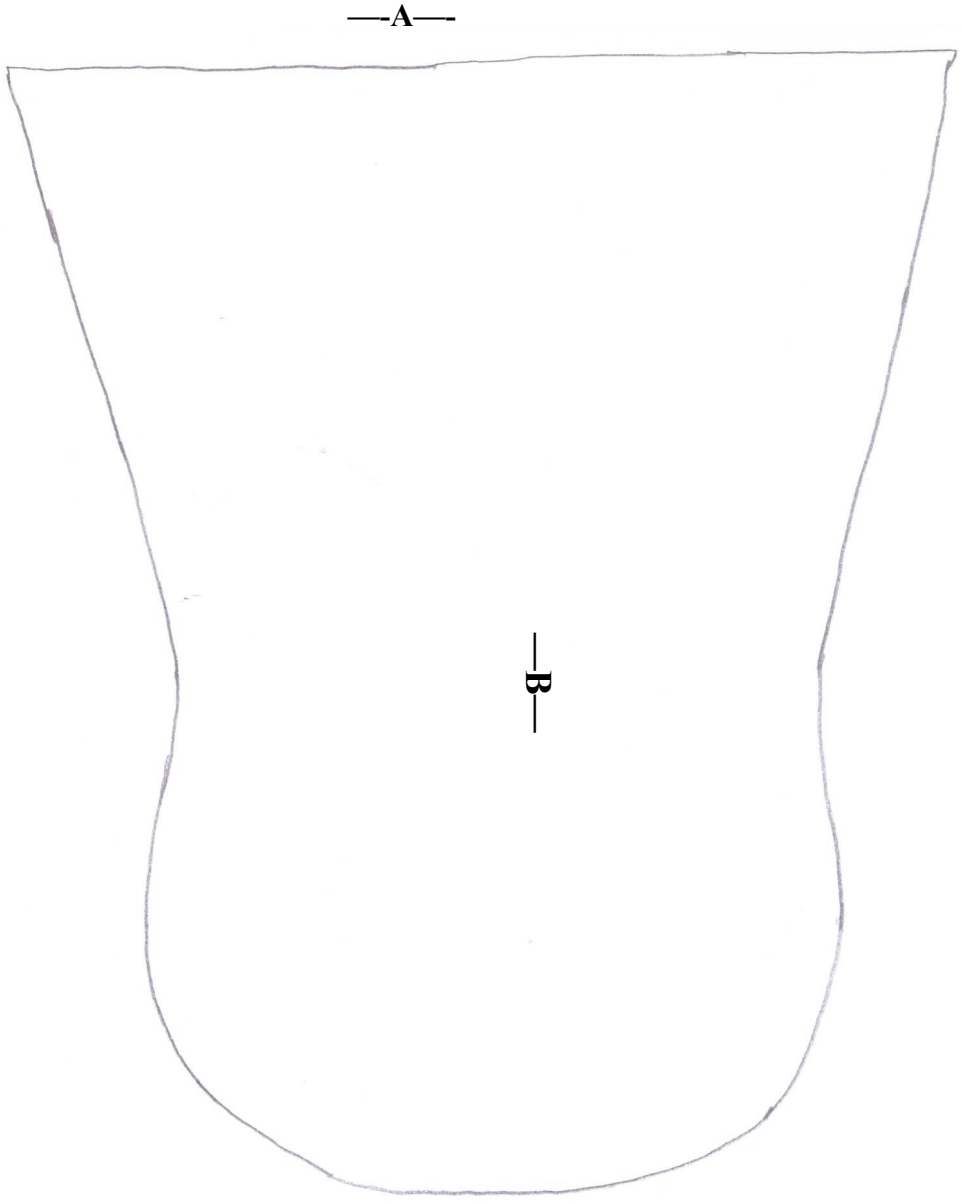
Bells–pages 1-6 are reprinted from Blacksmiths Guild of Potomac Jan-Feb 2007 Newsletter

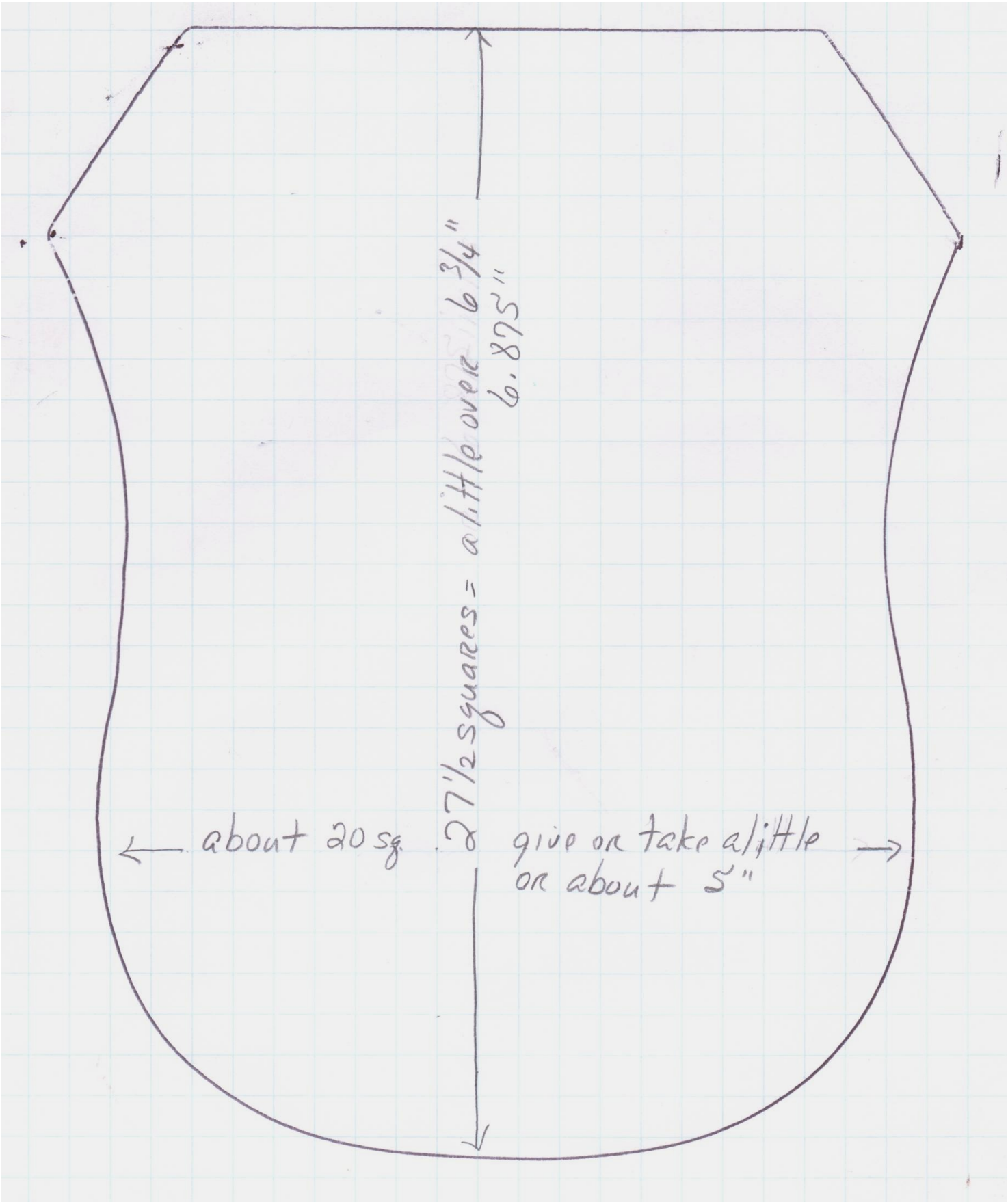
Note from ABA Editor:
Try using different thicknesses of steel plate, or copper, or brass for different sounds.



Top form for shovel. Made from 3/8” flat with a bevel of approximately 45 degrees.

The measurements for this pattern are. 4 7/8” (A) and 6” (B)
If you have trouble getting the shape right. Ricky said that he took a piece of aluminum foil and pressed it down into the swage block shape concentrating on getting it into the corners and then removed it and flattened it just enough so he could then cut around the crease that formed.





This is the shovel blank for the shovel Ricky Vardell made for Bob's meeting. We drew it off onto 1/4 grid paper to help show the size. I don't know how well the grid paper will reproduce so I have counted the squares and added those dimensions where possible.

From THE IRON TRILLIUM 33 SPRING 2013 The Ontario Blacksmith's Association

A Poor Man's Version of a Smithin' Magician

With apologies to those who have come before me, I present my take on the Smithin' Magician, a fullering tool for which countless variations exist and plans are easy to find. It can also be purchased from Blacksmith Supply LLC, although its cost, particularly shipping, was my primary motivating factor in constructing my own version since I, like most blacksmiths, are inherently cheap. When I went about building mine, I had three goals in mind:

1. It had to be easy and quick to make, no drilling or tapping, just welding.

2. The action had to be as precise as possible, the dies had to come down on top of each other with no play back and forth or side to side.

3. It had to be open on the side so that could work on a small section of a piece which might be long or might have a bulky section that wouldn't fit through the opening.

The materials I chose to use were:

- One 4" square 1/2" plate for the base
- Two 7&3/4"x4"x1/4" front and back plates
- Two 9"x1"x1/2" for the sides
- One 1&1/8" square length to go in the hardy hole
- One 10"x2"x1/2" for each die (itself to be cut as appropriate, usually around the 3" mark or so)

Assembly is very simple, just clamp everything together with the die blank in place as tightly as possible and then weld the outside. If you look carefully at the picture, you'll see that the top side plate wasn't clamped as well as it should have been when I made mine.

You don't need to bother welding the section where you will later cut out the 3" hole unless, like me, you feel it important to get extra practice welding (and then swearing, everybody needs practice swearing). Cut out the 3" hole as crudely as possible, I recommend a very awkward angle grinder for this step. Clamp and weld to the base, again very crudely to maintain consistency, and then weld the base to the bar for the hardy hole.

Making the dies is by far the most fun part of the process. Pictured are two of my favourites. The set of dies in the tool are for fullering pipe, specifically for making cattails. I used to do this using two flat dies, but I found it much harder than it should have been, I had to spend far too much time worry about collapsing the pipe in on itself by making it too square. I pondered the idea of using a rounded base, but since I use a variety of different diameters, I stuck with the tried-and-true approach shown. The other set of dies shown are very narrow flat dies, which can be used to create a reasonably professional sharp indentation in a piece. Other dies I use fairly often include a gently rounded set of dies and an aggressively rounded set of dies. There are a huge number of dies you can make, for cutting, for doing decorative fullering on the outside of a bar, for butchering to make accurate tenons, and more.

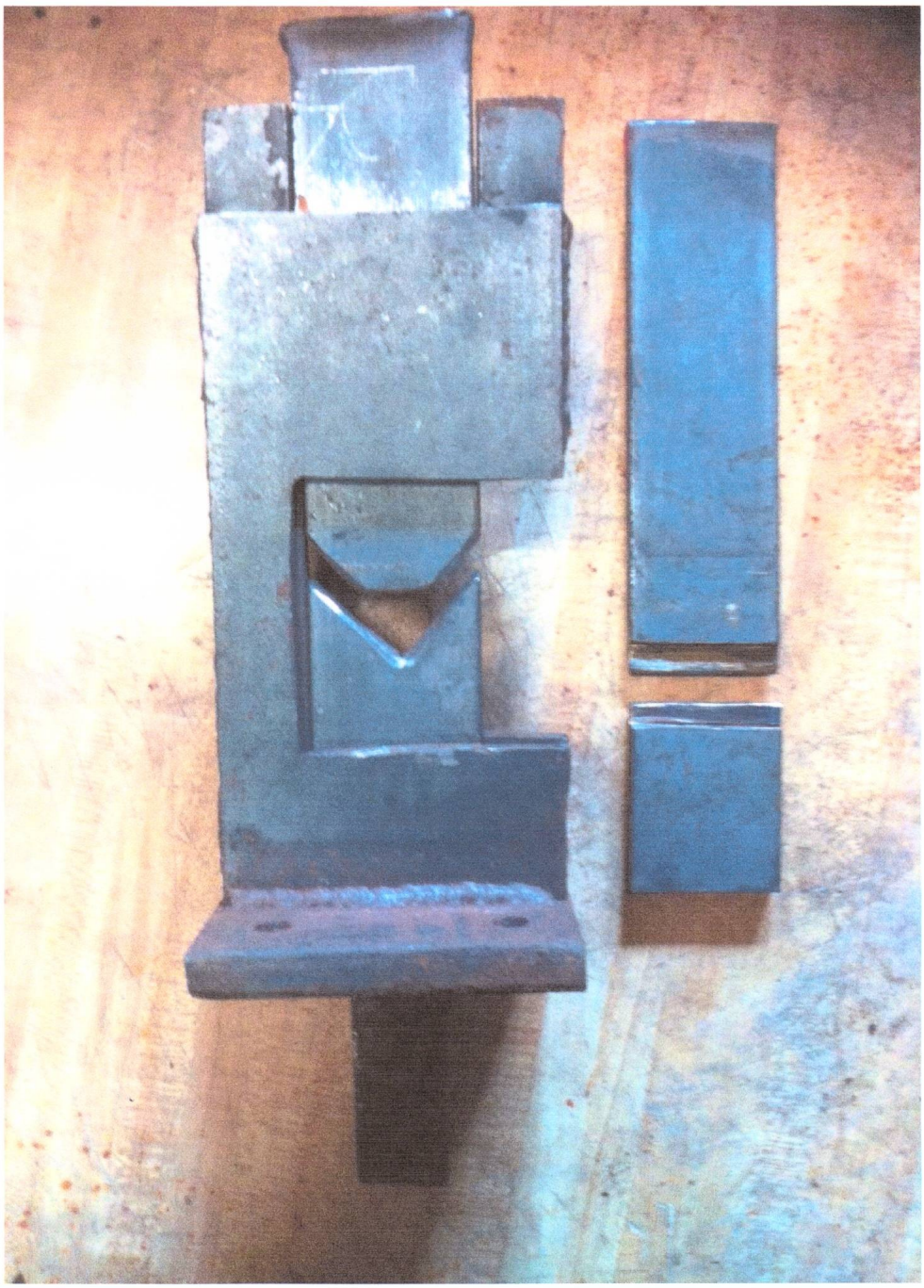
There are, of course, a lot of ways in which you could improve this, I'll list a few of the more obvious ones here. You could include a liner of another material, brass perhaps, to make the action even smoother. You could use a Cframe to make it stronger but turn it on a 45 so that you could still access it from the side.

You could strengthen the walls, although they really aren't absorbing much force, so I don't personally believe that to be particularly important. You could use thicker dies and thus have more flexibility with the types of dies you could make. You could use tool steel dies so the head of the die doesn't mushroom so much and the contact points of the die don't deform, although since this is just a hobby for me, this hasn't been an issue as of yet. You could put a light spring through the outside of the top die so that it automatically held itself open. You could assemble it in a way that wouldn't give casual observers the impression you were drunk when you made it. You could make it shorter, although I'd personally be a little leery of this, the height is one of the things that reduces the amount of play. You could include a hole through which you could slide a bar with a stop on the end, drilling and tapping from the side so that you could lock in place, so that you could hit exactly where you wanted to.

Despite the number of caveats I've listed here, it has turned out to be extremely useful. I find it far more consistent than springfullers and easier to create dies which aren't flat, such as the one shown.

I also find it easier, both in my small shop and when doing demonstrations, to have one hardy tool with a large number of easily-packable dies than to have a large number of hardy tools. If you have the chance to purchase or construct one of these, I would heartily recommend it.

Dave Brandow



STRIKE WHILE THE IRON IS HOT:

STARTING & TENDING YOUR FIRE

by Derrick Bliss

– written by Daria Plumb

It's often said that, "Heat is a blacksmith's friend," and we've all heard the old adage that you should, "Strike while the iron is hot." In my opinion, fire tending is just as important as hammer control, in that you need to have a good, hot fire in order to work your material in the most efficient way. The fire is the key that unlocks the possibilities of the iron.

When I was starting out, Paul Davidson told me that if you asked ten different smiths how to start a forge fire, you'd get ten different right answers. He also said that your own way (number eleven) is also the right way. As a nod to Paul, in this article, I'd like to share with you the way that I start my forge fire and invite you to add it to your list as number twelve.

Starting the Fire

A fire is alive, it needs fuel and air in order to thrive. When you start a forge fire, the green (or raw) coal, which is your first fuel, does not burn as well as coke. The heat from the fire will eventually turn that green coal into coke, which is what burns and produces your heat.

You will want to start with a clean fire pot (no ash, no clinkers). Lightly line the bottom, outside edge of the fire pot with green coal, being mindful not to block your airflow by covering the tuyère. This green coal will act as "future fuel", because as the coke fire burns, it will heat the green coal and convert it to coke. This process is called buttoning.

TIP: I

like to lightly water my green coal prior to putting it into the forge. This helps the coal coke together better and last slightly longer. Then build a small, stick fire in the center of

the fire pot. Once the stick fire has started to burn, lightly cover it with coke (once-burned coal). Then line either side of the firepot with more green coal. Some coal may contain rocks, which can explode when they get hot, so be sure to always wear your safety glasses.

Tending the Fire

People new to blacksmithing sometimes make the mistake of letting their fire burn out during the forging process. This results in a hollow fire--when you can see right through the fire to the bottom of your firepot--which doesn't generate adequate heat to work your material. To combat this problem, frequently add green coal to the outside edge of thefire pot (this helps to keep the fire pot cooler) and gently work it down the edges with your shovel forcing the coke already in the fire directly into the stream of incoming air (this allows the coke to burn better). This also allows the green coal to be turned

into coke, which assures that you will have constant fuel for your fire. Taking your piece in and out of the fire will displace the coke from the center of the fire and out onto your forge table. Using your fire rake, constantly pull the coke back into the center of the fire. I often refer to this as "playing in the fire", but it is very important because it helps you maintain a steady heat, guaranteeing that you're using your fuel and your time in the most efficient manner. Once you've been working for a few hours and are ready to take a break, place a large chunk of wood In the center of the fire and bank a pile of green coal all the way around and over the top of it to keep your fire. A piece of hardwood will last longer than a piece of 2 x 4. Then, when your break is over, remove the wood, crank up the air, and your fire will be ready to go in minutes.

Cleaning the Forge

When you're through forging and are ready to put the fire out, use the fire rake to gently rake the coke and coal out onto the forge table. Be careful not to dig too deeply because you will grab the clinkers (the impurities of the coal). Clinkers are the black, glassy substance that collects at the bottom of the fire; they not only rob the fire of heat, but when you rake them out, they contaminate your coke. It is best to wait until the fire is fully cooled to gently rake out the clinkers. As they cool they will stick together and then you can use your tongs to pick them out and pitch them under the forge. Also be sure to use the fire rake to break up any large chunks of red-hot coke that might still be burning to insure shop safety and to prevent fires.

Now you have come full circle. You will be ready to use the once-burned coal and coke as your start-up fuel for your next forge fire. **NOTE:** Every forge fire is slightly different and maintaining and ending a proper fire is a constant learning process. Don't be afraid to experiment and try new techniques...these experiences (both the good and bad) will lead to a better understanding of the forging process.

This article compliments of The Upsetter Newsletter of the

Michigan Artist Blacksmith's Association Sept-Oct 2013

Class of 2013
Woman in the Outdoors

Pictured are a few of the 23 students who learned Basic Blacksmithing Skills from Saltfork Craftsmen ABA members, Tracy Cowart, Dan Cowart and Gerald Brostek at the "Woman in the Outdoors" Conference held at Tenkiller State park in eastern Oklahoma. Each student worked with anvil, hammer and forge to complete a Drive Hook, Hoof pick, cooking tri-pod or Fredrick cross with their newly learned skills using both gas and coal forges.

ABANA

Artist-Blacksmith's Association of North America

Month Day, Year

Register before 15 January 2014 and save $50.00

ABANA Members only $125.00
Non - Members $175.00*

2014 Conference Registration

*** Not an ABANA Member but planning on attending the Conference?**
Before Registering for the Conference at the Non-Member Rate,
You might want to review the Benefits of ABANA Membership
For only $5 more than the Non-member registration fee you can join ABANA and enjoy the following:

Benefits of ABANA Membership

Anvil's Ring and Hammer's Blow Magazines

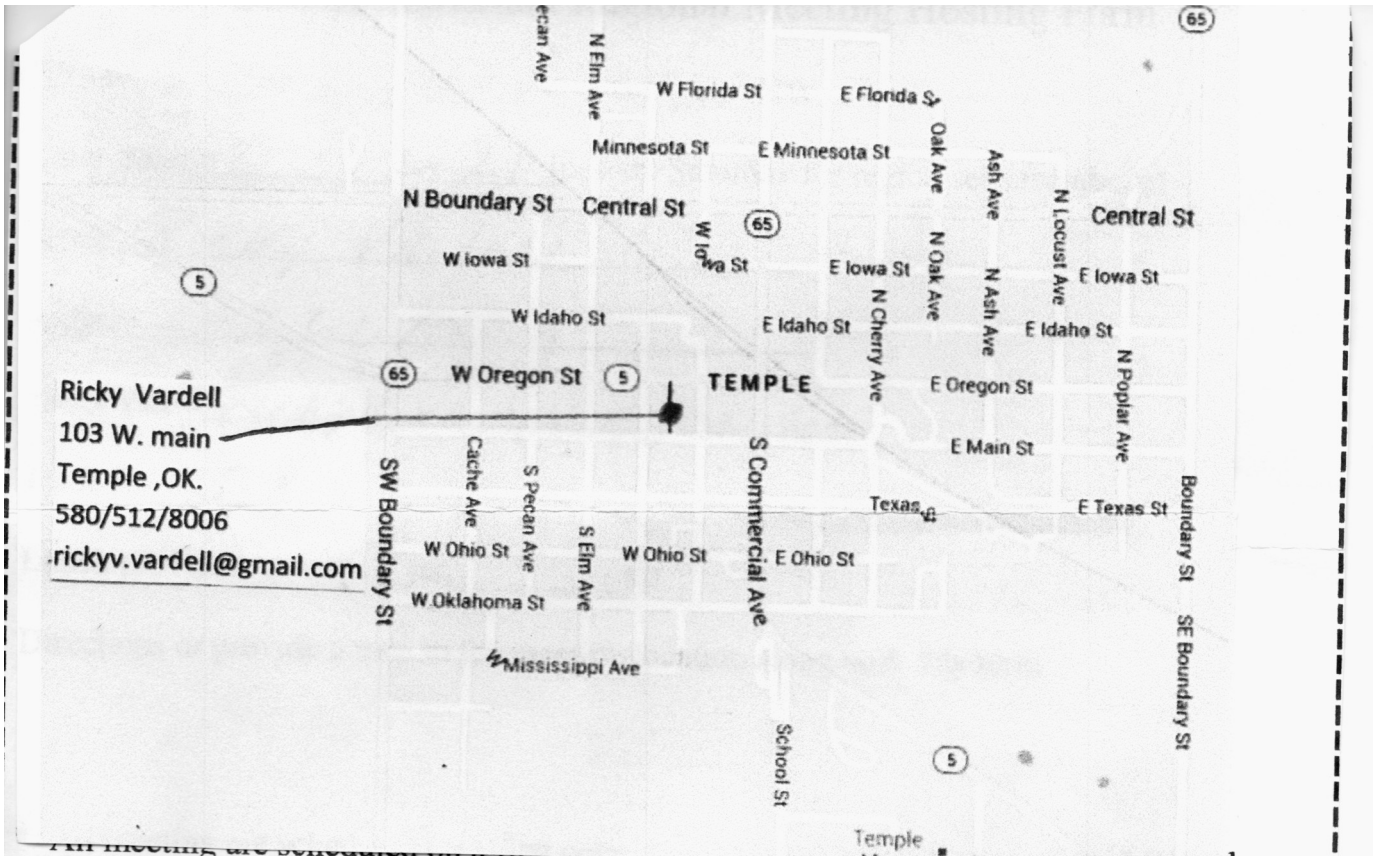
ABANA is proud to announce we have made arrangements through Transamerica and Ameritas for Insurance Programs

ABANA Members Insurance Programs

You can save more than the cost of your membership by using the

ABANA Members Only Discount Program

ABANA Conference Harrington, Delaware
August 13-16, 2014



This article compliments of

The Upsetter Newsletter of the Michigan Artist Blacksmith's Association Sept-Oct 2013

This half page article reprinted from the Forge Work by William L Ilgen, 1912– Google Book

Figure 42 shows a sectional

view of a blacksmithing fire: *d* is the bed of hot coke;

c is the dampended and unburned coal which surrounds the fire, continually forming more coke as it is needed and also holding the fire in a compact form;

A shows the proper way of

placing the metal in the fire, *b*, the improper way because the metal is too near the entrance of the blast. As heating is such an important operation, a thorough understanding of what casues imperfect heats, as well as how to prevent them is necessary.

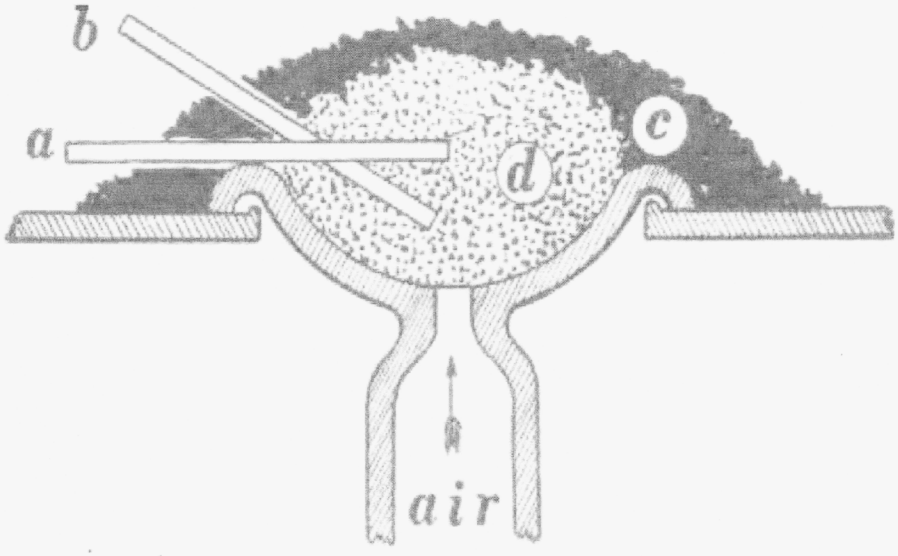


FIG. 42.—SECTIONAL VIEW OF A BLACKSMITHING FIRE.

2013 Meeting schedule

SE Region (1t Sat)	NE Region (2nd Sat)	SC Region (3rd Sat)	NW Region (4th Sat)
Dec. **Open**	Dec. **open**	Dec. Ricky Vardell	Dec. **open**
2014 Meeting schedule			
Jan	Jan: Bill Kendall	Jan; Gerald Franklin	Jan: Dorvan Ivey
Feb	Feb Gary Gloden	Feb: JJ McGill	Feb: Gary Seigrist
March	March: Doug Redden	March	March: Mandell Greteman
April	April	April	April: Bob Kennemer
May	May	May	May: Roy Bell
June	June	June	June: Don Garner
July	July	July	July
Aug	Aug	Aug	Aug
Sept	Sept: James Mayberry	Sept: J.J. McGill	Sept: Ron Lehenbauer
Oct	Oct	Oct (SCABA)	Oct: Cheryl Overstreet
Nov	Nov	Nov	Nov: Mandell Greteman
Dec	Dec	Dec	Dec: Ted Culver

✂

Saltfork Craftsman Regional Meeting Hosting Form

Region_____SE _____NE_____S/C_____NW

Date: Month_____day_____[correct Saturday for region selected above]

Name_____

Address_____

Phone/email_____

Trade item_____

Lunch provided_____yes_____no

Directions or provide a map to the meeting location along with this form.

All meeting are scheduled on a first come basis. Completely filled out form MUST be received by editor no later than the 23rd of the month TWO months **PRIOR to the meeting month.
Completed forms can be mailed or emailed.
You will receive a conformation by email or postcard.
A form must be filled out for each meeting.

SCABA Shop and Swap

For Sale:

6" round nosed pliers (great for putting scrolls on small items) $5.00 each. Brooms tied, $20.00 on your handle Please contact me for help with handle length.
Contact Diana Davis at Diana.copperrose@gmail.com

For Sale:
24"(wide) x 1"(thick) Ceramic fiber blanket (similar to Kao -wool) $1.00 per inch of length. Twisted solid cable 1/2" diameter $2.00 per ft.
Contact Larry Roderick at 940-237-2814

Wanted:
Advertising Coal Hammers, Contact Mike George at 1-580 -327-5235or o Mike-Marideth@sbcglobal.net

Wanted:
Sand Blast cabinet. Contact Tom Nelson
580-862-7691

Wanted:
Looking for a decent Anvil
130-150 pound range
Kaleb Brasel

Club Coal

Saltfork Craftsmen has coal for sale. Coal is in 1-2" size pieces The coal is $140.00/ton or .07 /pound to members .**No sales to non-members.**

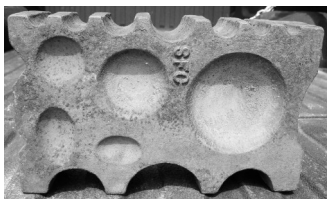
NW Region coal pile is located in Douglas, OK. If you make arrangements well in advance, Tom Nelson can load your truck or trailer with his skid steer loader for a fee of $10 to be paid directly to Tom. Tom has moved his skid steer and must now haul the loader to the coal pile to load you out, hence the $10 charge. You may opt to load your own coal without using Tom's loader. The coal can be weighed out at the Douglas Coop Elevator scales. Contact Tom Nelson (580-862-7691) to make arrangements to pick up a load. Do not call Tom after 9 PM!! Bring your own containers and shovels. Payment for the coal ($.07 per pound) should be made directly to the Saltfork Treasurer.

NE Region coal location: Charlie McGee has coal to sell. He lives in the Skiatook, Oklahoma area. His contact information is:
littleironworks@gmail.com or (home) 918-245-7279 or (cell) 918-639-8779

S/C region coal location: Club coal is now available at Norman at Byron Donor place. Call Byron to make arrangements to come by and get coal.

.

SCABA swage blocks
$100.00 plus shipping to members. (1st block)
$120.00 plus shipping to non-members
Contact Bill Kendall for more information

SCABA Floor Cones are now available from Bill Kendall, Byron Donor and Gerald Franklin. The price is $200 plus shipping and handling.

Show your pride in SCABA
License plates for $5.00 each.
We have coffee cups for $9.00 with two images on them and We have a new shipment of caps for $10.00. There will be caps at the SC meetings and- Dan Cowart has cups and caps .

We have some 2013 SCABA conference t-shirts available if you didn't get to get one. Contact Dan Cowart or Diana Davis for sizes available. The t-shirts cost $15.00

I also have the insulated cups marked down. You can get one for $6.00 each or 2 for $10.00. see me at a meeting..Diana

SCABA Membership Application

January 1, 20_____ to March 31, 20_____

Please accept my application Date: _____

First Name _____ Last Name _____

Married? ____ Yes ____ No Spouses Name _____

Address _____

City _____ State _____ Zip _____

Home Phone (_____) _____ Work Phone (_____) _____

E-mail _____ ABANA Member? ___ Yes ___ No

I have enclosed $20.00 for dues for the period ending March 31, 20 ____

Signed: _____

Return to: Saltfork Craftsmen, 23966 N.E, Wolf Road, Fletcher, OK 73541

ABANA — NEW & RENEWAL MEMBERSHIPS

Name : _____ Membership ID # _____ (For renewals. Optional)

Business Name (optional): _____

Street : _____

City : _____ State/Prov : _____

Zip/PC : _____ Country : _____

Phone : _____ Fax : _____

E-mail : _____ Website : _____

Membership Type: ☐ New ☐ Renewal

Regular (US, Mexico, Canada)	One Year — ☐ $55	Two Years — ☐ $105
Senior (65+, US, Mexico, Canada,)	One Year — ☐ $50	Two Years — ☐ $95
Full-time Student (US, Mexico, Canada)	One Year — ☐ $45	Two Years — ☐ $85
Foreign	One Year — ☐ $65	Two Years — ☐ $125
Public Library (US, Mexico, Canada)	One Year — ☐ $45	Two Years — ☐ $85
Youth (18 years & younger) non-voting Hammer's Blow only	One Year — ☐ $20	Two Years — ☐ $40 (No discount)
Educational Institutions	One Year — ☐ $250	
Contributory Membership (amounts above $55 / year may be tax deductible)	One Year — ☐ $150 and up $_____	

Additional contributions to ABANA's special funds:

Exhibition Fund	$_____
Metal Museum Library Fund	$_____
Next Conference Seed Money Fund	$_____

Total: $ _____

Credit card orders can be faxed, be sure to sign this form. Fax: 423-913-1023

Card Number				Expiration Date	CVVS

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