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# THE FORGE FIRE

The Newsletter of the Indiana Blacksmithing Association, Inc.

**An Affiliate Of The Artists-Blacksmiths' Association of North America, Inc.**

IBA is a Not For Profit Indiana Corporation recognized by the IRS under section 501(c)(3)

10:00 AM is the regular meeting time for IBA Hammer-Ins  
with beginner training available at 9:00 AM.  
**PLEASE MAKE SURE TO ASK FOR HELP!**

**If you would like an IBA membership application form,  
please contact Farrel Wells, Membership Secretary  
(765) 768-6235.**

BULK LOTS ARE AVAILABLE TO DEMONSTRATORS,  
SHOPS, SHOWS AND OTHERS WILLING TO MAKE THEM AVAILABLE.  
WE APPRECIATE YOUR HELP.

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**More nearby resources and organizations for blacksmiths:**

**Rural Smiths of Mid-America:**  
Meetings are on the first Saturday  
of each month  
Call Moe Handy  
(317) 862-5647 for details.

## IBA MEETING SCHEDULE

Check the latest *Forge Fire* for monthly IBA revisions.

**Oct 20  
2012**

**WABASH VALLEY BLACKSMITH  
SHOP**

**Nov 17  
2012**

**ST JOE VALLEY FORGERS**

**Dec 8  
2012**

**CHAZ KAISER'S  
BATESVILLE**

**Jan 19  
2013**

**FALL CREEK BLACKSMITH SHOP**



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### **Dates to Remember**

Oct 20  
Wabash Valley

Nov 17  
St. Joe Valley

Nov 22  
Thanksgiving

Dec 8  
Chaz Kaiser

## **Editors Message**

Fall weather is upon us. For me the cooler weather makes forging far more enjoyable than the heat of summer. Forging is even better when you can enjoy the fall colors. That is one reason I look forward to the October hammer in at Wabash Valley. Fowler park provides a beautiful setting for a fall hammer in. The folks at Wabash Valley are outstanding hosts. The forges are always busy and lunch usually includes a pot of beans cooked over an open fire. I hope to see you there.

The September hammer in was held at Sutton-Terock at the Fulton County site. Fred Oden provided a class on tong making. The class was well attended with four forges going.

The Board of Directors held a meeting while the class was being conducted. I have misplaced my notes, but here are some highlights from recollection.

- The 2012 IBA Conference was a great success for attendance, quality of demonstrations and financial return. The gallery of different items was especially appreciated.
- Next year the IBA is the official host for the Upper Midwest Regional Blacksmith Conference (UMRBC) also known as "Pontiac". Bill Conyers is the IBA chair. Expect Bill to be soliciting assistance with the various tasks.
- There was a healthy discussion pertaining to young people as IBA members and with regards to ages that can attend hammer ins and other events without a parent or guardian being present. Overall there is a desire to increase our availability to younger smiths. At the same time we do not want the IBA to become responsible for unsupervised minors. If you have comments on this subject, I encourage you share your thoughts with one or more board members.

Jim Johnston shared the following internet link with me. There is quite a bit of information there. <http://gulfcoastblacksmith.com/links/5/>

I would also recommend the IBA website listed below and the Rocky Forge web site [www.rockyforge.org](http://www.rockyforge.org)

**Visit the IBA website at: [www.indianablacksmithing.org](http://www.indianablacksmithing.org)**

## IBA Satellite Groups and News

### Sutton-Terock Memorial Blacksmith Shop

Meet: 2nd Saturday at 9 AM  
 Contacts: Fred Oden (574) 223-3508  
 Dennis Todd (574) 542-4886

### Wabash Valley Blacksmith Shop

Meet: 2nd Saturday at 9 AM  
 Contacts: Doug Moreland (217) 284-3457  
 Max Hoopengartner (812) 249-8303

### Maumee Valley Blacksmiths

Meet: 2nd and 4th Saturday  
 Contact: Clint Casey (260) 627-6270  
 John Schamber (260) 579-7303

### Rocky Forge Blacksmith Guild

Meet: 2nd Saturday at 9 AM  
 Contacts: Ted Stout (765) 572-2467

### Whitewater Valley Blacksmiths

Meet: 2nd Saturday  
 Contact: Keith Hicks (765) 914-6584

### Bunkum Valley Metalsmiths

Meet: 1st Saturday  
 Contacts: Doug Neukam (812) 259-4430  
 Jim Malone (812) 636-7533  
 Kathy Malone (812) 725-3310

### One Armed Blacksmith's Shop

Thanks to the IBA, Ted Stout, Jim Jessee and Davids Fabrication for the help with the anvil.

Hello All,

The Hope Heritage days was a success.

Thanks to Jim Jessee, Andy Higginbotham, Ben Higginbotham and Austin Hastings we raised around 125.00.

We will continue to try to get a spot on the square at no cost to us. This will require several people to help as our rent will be paid for by demonstrations. So please keep this in mind for next year.

The IBA has loaned a 50lb Little Giant to the OABS. The hammer is currently at Kenny's house on a trailer. Our plan is to move it my house this Friday between 4-5pm. ( all are welcome ) The hammer is in a state of disrepair at this time and will go through extensive work before being moved to the Farm.

### Jennings County Historical Society Blacksmith Shop

Meet: 2nd Saturday at 9 AM  
 Contact: Ray Sease (812) 522-7722

### Fall Creek Blacksmith Shop

Meet: 4th Saturday at 9 AM  
 Contacts: John Zile: (765) 533-4153  
 Larry Singer (765) 643-5953  
 Farrel Wells (765) 768-6235

### St. Joe Valley Forgers

Meet: 4th Saturday at 9 AM  
 Contacts: Bill Conyers (574) 277-8729  
 John Latowski (574) 344-1730

### The Southern Indiana Meteorite Mashers

Contacts: Billy Merritt (812) 338-2876  
 Steve King (812) 797-0059  
 Jeff Reinhardt 812-949-7163

### One Armed Blacksmith's Shop

Meet: 1st Saturday  
 Contact: Tim Metz (812) 447-2606

### "Doc" Ramseyer Blacksmith Shop

Location: 6032W 550N, Sharpsville, IN 46060  
 Meet: 3rd Sunday at 2 PM  
 Contacts: Mike Kelley  
 Charles Gruell (765) 513-5390



## Rocky Forge Blacksmith Guild

Hello everyone, seems like a long time ago that we all got together for a real structured meeting time. Our busy summer is now gone and we are preparing for all the fall events. Our next meeting will be October 13th at Ted's shop. As usual the coffee and doughnuts will be ready by 8:30 and I hope to see some new members show up.

Our last meeting at the Illiana show grounds was a fun and memorable event. We all had a good time forging, bonding and just fooling around. The neat part of the day was watching new member (teenager) Andrew Fry start his own fire and proceed to blacksmith. Then his girlfriend Deangela (Dannie) Bailey was taught by Gene Hollingsworth how to make a copper bowl. Wow! She made a beautiful bowl about 7-8 inch diameter and 4-5 inch high. The smile on those kids faces was all I needed to show their appreciation. That's what its all about!! I cannot forget to say, Gene is a darn good teacher.

At the next meeting we will have an open forge time with a plan to entertain members of the **Hoosier Plymouth Club** stopping by around 1:00 P.M. to see what we are doing. During their visit I hope to have some forges going, Gene will show them how to "undent" sheet metal and the rest of us can do our thing and answer any questions they may have about our metal smith hobby. If someone has a special trade they want to demonstrate that would be great. If you are interested in old cars they will line up the old Plymouths along the driveway for easy viewing. It should be a fun time and I am looking forward to having a good turnout of our club members.

Carol is going to prepare a pot of chili, so bring whatever you want as a fill in for the meal. Sometimes some of you forget to bring anything for lunch so try to remember because it makes a much better meal with variety. We will have an iron in the hat drawing so bring items for that purpose. I will be able to supply several forges and anvils, but you need to bring your coal, tools and metal. I have some metal you can use. One thing some of you need to practice is forge welding, this might be a good time to practice so I will give a few minutes of lecture on the subject with input from all of you. Being able to forge weld is so important to our metal working that each of us needs to know how to successfully weld.

Enough for now, see you all on October 13th for a fun day in the shop.....  
Ted

## Dragon Forge Message

From Joyce Roell

Hey guys!

I this whole video is neat...but the dragon forge at the beginning is AWESOME.

And here I thought WE were cool. HA

Hope to see you at Quadstate!  
Joyce

Here's the link: [http://www.youtube.com/watch?v=J-b87Q8RVXE&feature=player\\_embedded](http://www.youtube.com/watch?v=J-b87Q8RVXE&feature=player_embedded)



## Jennings County Historical Society Blacksmith Shop

The Jennings County Historical Society Blacksmith Shop was opened by Ray Sease at 6:40am 9-08. Matt Jones and Kevin Walsh opened a cross made from mild steel 8"x1 1/4" square. Kevin was the main striker. Although this was impressive to some attending, it couldn't hold a candle to the Meteorite Mashers monster. We talked about a 4" square cross, but decided not to install a chain hoist. Brad Weaver made a horse shoe which resembled the "Colts style" of a horse shoe although it wasn't blue and had no logo. He had a potential buyer immediately but, being the nice guy he is, he put it in the iron-in-the-hat and was won by (wouldn't you know) Ray Sease. Charlie Helton made a musical ringer before we were invaded by a swarm of cubs (scouts, that is) Ray Sease gave an excellent demonstration of an "S" hook, a heart stake, and impressed them by punching holes in two pieces of flat stock and riveting them together. Ray, Gerald Williams, and others gave the scouts, teachers, and chaperones a lesson on the historical aspect of metal working, including the pioneer days. There were approx. 70+ people who attended. We were thankful for the opportunity to expose the younger crowd to the art of blacksmithing. After our visitors left we had iron-in-the-hat, dinner and a lot of discussion. The shop was cleaned by those remaining and a very successful day was appreciated. Paul Bray

## Bunkum Valley Metalsmiths

The Bunkum Valley Metalsmith's met on September 1, 2012. It was once again a good day for blacksmithing, a little on the warm side but tolerable. We had 23 people in attendance for this meeting and we had another great time together. Jim Malone and Doug Neukam had to show off the concrete pad behind the shop that was poured to eventually hold the helve hammer. They also have plans to expand the shop to the north that will house the hammer sometime in the future. Perry Hendricks wanted to know how to make a sword so Aaron Baker and Shawn Gilley were tutoring him on that. Gale Mehler was using the press to make an anvil bridge. Dakota Smith and Alan Brazzel were making parts to the cowboy grill that we were going to raffle off



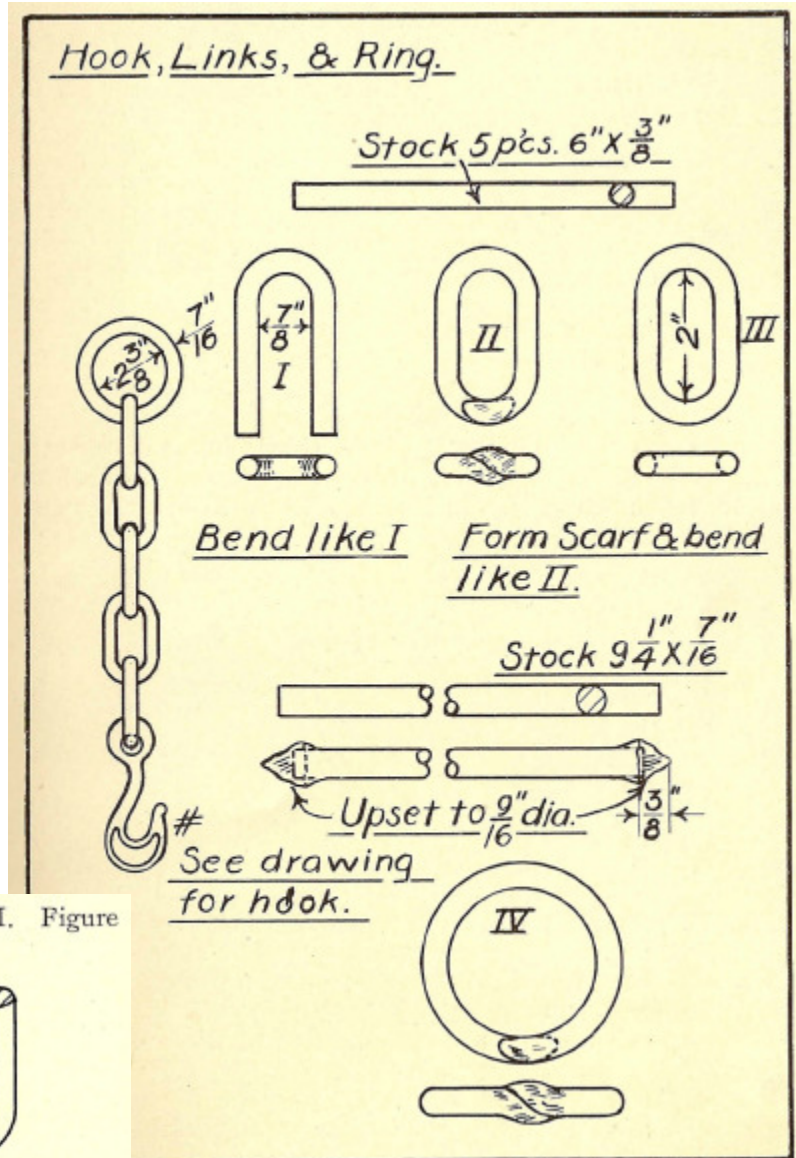
at the White River Valley Antique Show. Aaron Baker also made a steak turner for the cowboy grill. Shawn Gilley and Aaron Baker put on a forge welding demonstrations for some of the newer members. Tim McNelis was cutting split crosses. The Sutton guys from Shoals were here and worked hard all day but I failed to find out what they were making. Sorry guys! We were really glad to have Pat and CJ Sauer back after a few months absence due to CJ's heart bypass surgery. We had a good meal together and iron in the hat was fun as usual. Thanks to all who attended and brought food to share. It was a good day. And as I always say; if you have too many irons in the fire, don't lose your temper.

EXERCISE XI—PLATE VIII. BENDING—SCARFING—  
WELDING. "LINKS OF CHAIN."

*First*—Square ends of stock.

*Second*—Bend the five pieces like I. The  $\frac{3}{8}$ " bottom swage will be very convenient for bending. (Figure 28, Page 37.)

Instructions on chain making from 1918 High School Forge Shop instruction manual.



*Third*—Scarf and bend, ready for welding like II. Figure 25 shows the proper position for scarfing.

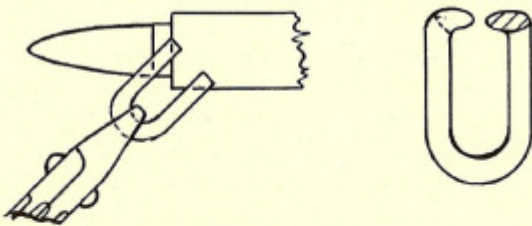
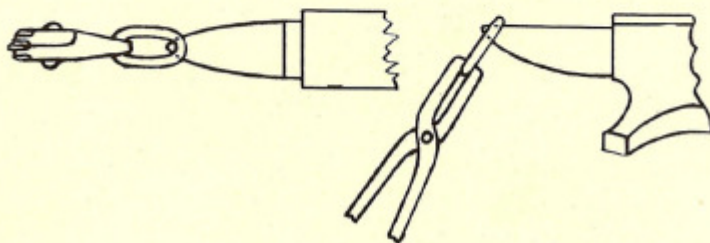
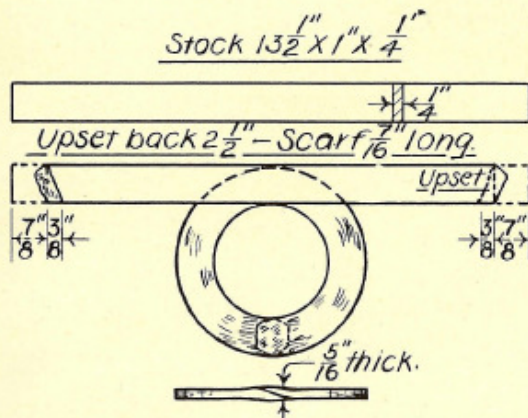


FIGURE 25.

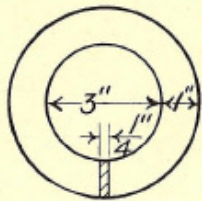
*Fourth*—Weld two links. Use a third link to weld the first and second together. In welding, place on the horn at  $45^\circ$  as shown in Figure 26. Smooth up to measurements given in drawing.





Flat Ring or Washer

Note -  
Upsetting, Scarfing  
Welding, Smoothing  
with Flatter.



## EXERCISE X—PLATE VII.

UPSETTING—SCARFING—WELDING—SMOOTHING WITH FLATTER. "FLAT RING OR WASHER."

*First*—Upset each end  $2\frac{1}{2}$ " back from the end, shortening each end  $\frac{3}{8}$ " for extra stock for welding, keeping stock original width. **Caution.** When striking on the edge to narrow the work, hold it lengthwise of the anvil to prevent any danger from its flying out of the tongs.

*Second*—Shorten or bevel each end  $\frac{3}{8}$ ". Hold the work over the horn when driving back or upsetting. If, when working the bevel, the narrowing is done, on the long edge, it will keep both sides the same thickness.

*Third*—Form the scarf on each end. Place on the anvil with the straight or long side toward you. Rule for scarfing, length of scarf one and one-half times the thickness of the stock.

*Fourth*—Heat one-third of the stock; cool the long corner and bend over the horn, repeat on the other end; heat the center and finish the bending. The work may be placed on top of the anvil in order to bend in the center rather than on the horn. Be sure that there is a true curve that the scarf may come together squarely. Pein the scarf down tightly before welding.

*Fifth*—Weld and draw to measurements. **Caution.** Be sure that the fire is free from clinkers and that you have a narrow fire. Place the weld flat over the center of the fire, cover well with coke and heat slowly. After drawing to size,

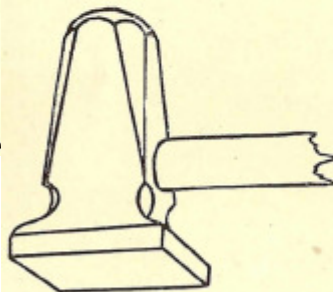


FIGURE 23.

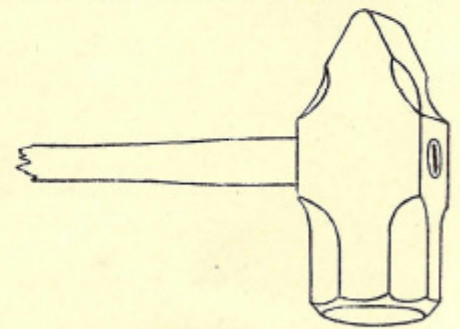


FIGURE 24.

smooth with flatter. Figures 23 and 24 show the flatter and the sledge. Great care must be exercised in striking with the sledge, not to use a heavy blow the first time. The first blow must always be light in order to gauge it.

*Sixth*—Blacken finished work.

**The Split Weld.** This weld is used in welding thin stock and springs and tool steel. Pieces to be welded are split down the center about a half inch. One half is bent up and the other is bent down. They are driven together and the split parts are closed down upon each other. The joint is then heated and welded together. (Figure 20.)



FIGURE 20.

Alternative welding method for joining flat stock

## Trip to Harley Chandler's Coach Building Shop

By Jim Johnston

On Monday the 27th I made a trip to a foreign land, namely Kentucky. I was lucky enough to be invited to Harley Chandler's coach building enterprise in Petersburg Kentucky. Harley and his brothers, Dave and James, are busy building a coach for Colonial Williamsburg right now and were willing to show us their shop and the technique to temper the springs used in the construction.

Harley had a quench tank outside that was probably a foot deep, ten inches wide and 4 foot long. It was filled with roughly 5 inches of water with 5 inches of linseed oil floated on top.

The springs were heated on a wood fire till a piece of wood smoked a little when it was rubbed on them. There was no visible color in the springs at all. The springs dipped into the linseed oil, when it quit boiling and sizzling he would drop them down through the oil into the water to complete the quench.



The material was 5160 and he really quenched it a lot cooler than I thought was possible.



Ken Dettmer, Charlie Helton, Jim Watts and John Cummins met up on Monday morning and traveled there together. Ted Stout, Dominick Andrisani, and Greg Searcy were there, as was KJ Groven.

I met Ken Schwarz of Colonial Williamsburg there. He had 3 of his associates there but I failed to get their names or make their acquaintances. There was entirely too much to look at and do to speak to everyone.





The pictures on this page are just a small portion of the tools available at the shop and the last was the master of ceremonies, Harley himself.

Sooner or later I will post some more photos on the IBA website so keep looking.

Semper Ardens

Jim Johnston



## The Ken Dettmer Side-draft Forge, Part II

Michael Wollowski and Kenneth Dettmer

This is the second part of construction notes for Ken Dettmer's side-draft forge. Here, we describe the construction of the smoke chamber and the chimney.

### Smoke Chamber

The smoke chamber is shown in figure 1. The side and back walls are double brick construction; the front wall facing the firepot is of single brick construction. See figure 2 for details. In part 1, we already mentioned the opening to the smoke chamber, which is 13" wide and 17" tall. The inside dimensions of the smoke chamber are determined by the width of the forge, the placement of the firepot and the thickness of the walls. Ken's forge is five bricks wide. Subtracting two bricks for the double wall construction gives us three bricks, as you can see in figure 2. Adding in the width of the mortar joints, we get about 26" for the width of the smoke chamber. Its depth is three bricks minus a brick and a half, giving us about 13", when including the mortar joints. The smoke chamber is 8 bricks tall, adding in the mortar joints, you get about 22 1/2" for the inside height of the chamber.

If you build a larger or smaller forge, you may have to reconsider the double wall construction. The chimney on Ken's forge draws really well, so you may want to stick close to the dimensions provided here. While the size and set-up of the forge may determine how well the chimney draws, you should know that a similar forge, somewhat smaller, has been built by Ken and some of his friends. The dimensions of its smoke chamber are very close to those described here and it draws equally well.



Figure 1: Smoke chamber



Figure 2: Double wall construction

### Hood

In figure 3, you see the cage Ken welded up for the hood. It is welded from angle iron and round rods, but anything reasonable will do. The cage is placed inside the lip that you see in figure 2. This determines its lower dimensions which are 34" by 17". The top of the cage should be a bit over 12" square so that you can attach the flue to it. The height of the cage is determined by the construction of the hood. Ken wanted to overlap the bricks by 2/3 rds. This suggests a 60 degree angle. In Ken's case, the cage is about 8 bricks, or 20" tall. Notice that the back of the hood is parallel to the wall.



The angle in the front is determined by the other dimensions and will be greater than 60 degrees. The sheet-metal you see in figure 4 is placed onto the cage. The purpose of the hood is very simply to make it easier to lay the bricks; you just bump them up against the metal. As such, there is no need to weld the sheet-metal to the cage. Notice that at the base of the hood, you transition from two brick to single brick construction.

### Blower Switches

The wires for the blower switches are run from behind the back wall through the triangular space created by the bricks lining the hood. All those triangular voids, including those for the wires, were filled with mortar. Switchboxes are placed on the row of bricks about to be placed on those you see in figure 4. Ken centered the boxes on the sides and had to cut bricks for them. Have a look at figure 1 from the first part of this article, to see the location of the switches.



Figure 3: Frame for the hood



Figure 4: Sheet metal on the hood

### Chimney

The flue pipe attached to the top of the hood is 12" in diameter. Ken got his hands on some heavy grain elevator pipe. Alternatively, you can follow Jim Watts' approach; he put together two pieces of 6" stovepipe to obtain a 12" diameter flue. The flue is welded to the top of the cage, as seen in figure 5. The pipe, just as the hood, is not strictly necessary, but it makes it easier to keep everything plumb. Continue with single brick construction.

On the roof of your smithy, the flue needs to clear the peak of the roof by at least 4'. A rain cap should be 12" above the top of the flue to facilitate a good draft.

For more information on chimney construction, see:

<http://www.beautifuliron.com/chimneys.htm>



Figure 5: Flue attached to hood





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Newsletter of the  
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Inc.

**Bill Kendrick** *Newsletter Editor*

1280 N CR 900 W

Seymour, IN 47274

First Class Mail

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### **October 20 Hammer In Wabash Valley Blacksmith Shop**

**Fowler Park, Terre Haute**

From I-70 exit, take US-41 South 5 miles.  
Turn left on East Oregon Church Rd and travel 1 mile to Fowler Park

### **November 17 Hammer In St Joe Valley Forgers**

**Bill Conyer's Shop: 50964 Lilac Rd, South Bend, IN**

From the south: Go through South Bend on US 933 to Auten Rd. Turn left or west, cross the river, the first road is Lilac turn right (north), look for yellow house on right

From the toll road: Get off at exit # 77 this will put you on US 933. Go north to Auten Rd. Turn left or west, cross the river, the first road is Lilac turn right (north), look for yellow house on right