

**BOARD OF DIRECTORS****Gary Phillips '18** *President:*

14800 N SR 167 N  
Albany, IN 47320  
(260) 251-4670  
behere@netdirect.net

**Steve King '18**

1155 S. Paoli Unionville Rd  
Paoli, IN 47454  
(812) 797-0059  
kingknives@live.com

**Bill Conyers '19** *Vice Pres*

50964 Lilac Rd,  
South Bend, IN  
(574) 277-8729  
billconyerssr@yahoo.com

**Bill Newman '19**

4655 Williams Rd  
Martinsville, IN 46151  
(317) 690-2455  
ruralsmiths1@yahoo.com

**James Johnston '17**

*Education Chairman:*  
806 Twyckingham Lane  
Kokomo, IN 46901-1885  
(765) 452-8165  
kokomoblacksmith@comcast.net

**Keith Hicks '17** *Secretary:*

5184 State Road 252  
Brookville, IN 47012  
(765) 914-6584  
keithhicks2011@gmail.com

**Jeff Reinhardt '20**

2810 W. Riley  
Floyd's Knobs, IN  
(812) 949-7163  
ptreeforge@aol.com

**Dave Kunkler '20**

20749 Lancaster Rd.  
Branchville, IN 47514  
(270) 945-6222  
dwkunkler@yahoo.com

**Librarian:**

Larry Rosentrader  
8715 E. 375 N  
Churubusco, IN 46723-9501  
260-693-3267  
lrosentrader@gmail.com

**Editor:**

Bill Kendrick  
1280 N 900 W  
Seymour, IN 47274  
(812) 445-3009  
bill.d.kendrick@cummins.com

**Treasurer and membership secretary:**

Farrel Wells  
8235 E 499 S  
Dunkirk, IN 47336-8807  
(765) 768-6235  
flwells@frontier.com

**Awards Chairman:**

Charlie Helton  
2703 South Water Plant Road  
Westport, IN 47283  
(812) 591-3119  
heltoncs@frontier.com

# 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)

9:30 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.

The Indiana Blacksmithing Association, Inc., its staff, officers, directors, members, and hosts and the *Forge Fire*, specifically disclaim any responsibility or liability for damages or injuries as a result of any construction, design, use, manufacture or other activity undertaken as a result of the use, or application of, information contained in any articles in the *Forge Fire*. The Indiana Blacksmithing Association, Inc. And the *Forge Fire* assumes no responsibility or liability for the accuracy, fitness, proper design, safety, or safe use of any information contained in the *Forge Fire*.

*The Forge Fire* is the newsletter of the Indiana Blacksmithing Association Inc. (IBA) IBA is an affiliate of the Artist-Blacksmiths Association of North America Inc. Permission is granted to other similar non-profit organizations to reproduce uncopyrighted articles originally appearing in *The Forge Fire* provided credit is given the original source.

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

**Rural Smiths of Mid-America:**  
Meetings are on the first Saturday of each month  
Call Ron Gill  
317-374-8323 for details

**IBA MEETING SCHEDULE**

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

Nov 2016	COVERED BRIDGE BLACKSMITH GUILD
Dec 2016	DON REITZEL'S SHOP (2ND SATURDAY)
Jan 2017	TBD
Feb 2017	KEN DETTMER'S SHOP COLUMBUS



## INDEX

PGS 3-5  
SATELLITE NEWS

PGS 5-6  
PATTERN WELDED  
KNIFE BLADE

PG7  
MILD OR TOOL  
STEEL CHISELS

PGS 8-9  
MISTLETOE  
ORNAMENT

PG 10  
CANDY CANES

PG11  
REINDEER SHOES

## **Dates to Remember**

Nov 19 Hammer In  
at Covered Bridge  
Blacksmith Guild

Dec 10 Hammer In  
at Don Reitzel's

Dec 25 Christmas

## **Editors Message**

I understand last month's hammer in, hosted by Satellite 13, was sparsely attended. I can not say much as I was under the weather and did not make it. I am hoping this month's hammer in will get a big turn out at the Covered Bridge Blacksmith Guild.

I also want to reiterate that the December hammer in will be on the 2nd Saturday (December 10) due to busy schedules around Christmas holidays. The December hammer in will be hosted by Don Reitzel. Don has a spacious, heated shop. I hope you can make it.

In keeping with season, several of the articles in this months edition pertain to Christmas ornaments.

John Bennett created the following YouTube videos with Christmas themed items:

Metal 3D Snowflake Video: <https://youtu.be/gZSr2ERcTBg>

Sleigh Bell (#1) Video: <https://youtu.be/Tmud3fTD3sM>

Sleigh Bell (#2) Video: [https://youtu.be/tgRZ-\\_Aix9I](https://youtu.be/tgRZ-_Aix9I)

The 3D snowflake was also featured in a December 2009 ForgeFire article written by Michael Wollowski. Michael's snowflake is shown below.



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

## IBA Satellite Groups and News

### 1) Sutton-Terock Memorial Blacksmith Shop

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

### 3) Wabash Valley Blacksmith Shop

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

### 5) Maumee Valley Blacksmiths

Meet: 2nd and 4th Saturday  
 Contact: Clint Casey (260) 627-6270  
 Bruce Teegarden (260) 226-1722

### 7) Rocky Forge Blacksmith Guild

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

### 9) Whitewater Valley Blacksmiths

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

### 11) Bunkum Valley Metalsmiths

Meet: 1st Saturday  
 Contacts: Jim Malone (812) 725-3311  
 Terry Byers (812) 275-7150  
 Kathy Malone (812) 725-3310

### 13) Satellite 13

Meet: 4th Saturday  
 Contact: Bill Newman (317) 690-2455

### 2) Jennings County Historical Society Blacksmith Shop

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

### 4) Fall Creek Blacksmith Shop

Meet: 4th Saturday at 9 AM  
 Contacts: Gary Phillips (260) 251-4670  
 Dave Kline (765) 620-9351

### 6) St. Joe Valley Forgers

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

### 8) The Southern Indiana Meteorite Mashers

Contacts: Mike Mills (812) 633-4273  
 Steve King (812) 797-0059  
 Jeff Reinhardt 812-949-7163

### 10) One-Armed Blacksmith Shop

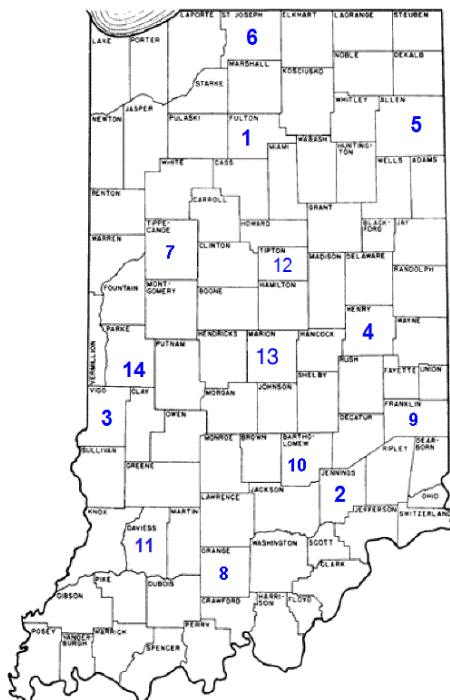
Meet: 1st Saturday  
 Contact: Tim Metz (812) 447-2606

### 12) "Doc" Ramseyer Blacksmith Shop

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

### 14) Covered Bridge Blacksmith Guild

Meet: 1st Saturday  
 Contacts: John Bennett (812) 877-7274



### The Southern Indiana Meteorite Mashers

The Meteorite Mashers met at Dave Kunkler's shop in Branchville this month. Had a new blacksmith to begin with us this month. Nolan is in the 7th grade and forged a J hook under the tutelage of Jeff Reinhardt and Isaiah Jenkins. And a nice hook it was. Then Aaron Baker demonstrated a patch knife from a coil spring brought by Isaiah. A nicely made patch knife left in Nolan's hand. Several split crosses were made as well as several punches. Mike Mills made a letter opener with a nice leaf handle. A great lunch was had by all and the shop was finally closed by about 6:30. The next meeting of the meteorite Mashers will be the now somewhat infamous "Smoked Turkey Hammer-in" the Saturday after Thanksgiving at Jeff Reinhardt's shop in Floyds Knobs. This very well attended hammer-in features a Hickory smoked turkey entree for the meal. It seems all really step up the food and iron in the hat and this is a great hammer-in. See you there.

## IBA Satellite Groups and News (continued)

### Fall Creek Blacksmith Shop

5 members showed up this beautiful Saturday. Also two new smiths that are joining IBA. Joe Hines and Waylon Thompson. Gary started training Joe, and I guided Waylon on welding chain links. Waylon welded up his first ever 3 link chain, doing a fine job. Matter of fact, it was his first time forge welding. Eric worked on making a vase holder and I worked making a trade item, forge welding some small bundles. No iron in the hat held.

Report by Dave Wells



### Jennings County Historical Society Blacksmith Shop

The Jennings County Historical Society Blacksmiths opened their meeting with Ray Sease starting the coffee (very important you know) then starting the fire. He then gave some instructions and demonstrated making an excellent leaf. Justin Gross practiced drawing out and other basic skills. Charlie Helton and Brad Weaver were fabricating tongs. They are getting pretty proficient at it. Barak Kirchner practiced on various skills. Alex Spellman worked on hold down with a piece of metal resembling RR iron. Wes Plumer, with a little help, crafted his first 'S' hook. Landon Ferguson and Liacoln Cooper also got in some forging time on the anvil.

Our next meeting on November 12 will be our last meeting for this year, at the Vernon shop. The December meeting is scheduled to be at The Bartholomew County Fair grounds 4 H building. We are being hosted by the One-armed blacksmiths, Tim Metz, and Bartholomew County Historical Soc. This place has four very nice forges. Thanks for your support.

January meeting at Paul Bray's -February meeting at Kenny Dettmer's- and March at Kevin Welsh. That is a tentative schedule . Changes ,if any, will be made known ASAP! If you wish to have a Christmas trade item in December, make something that you would be proud to get. This is only a suggestion but ,I thought it might be nice to get something that someone else made! Bring your Ideas to the next meeting.

Paul Bray



## IBA Satellite Groups and News (continued)



### Bunkum Valley Metalsmiths

The Bunkum Valley Metalsmiths had a meeting on November 5th 2016. There were about 40 people in attendance. It was a beautiful sunny day. We had a great lunch. Thanks again for all the great dishes everyone brought. We had a really fun time blacksmithing a toilet paper holder...a four leaf clover...an incense burner ...



## How to make a pattern welded knife blade

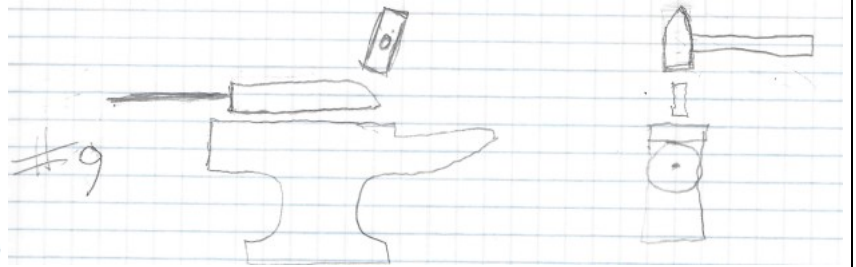
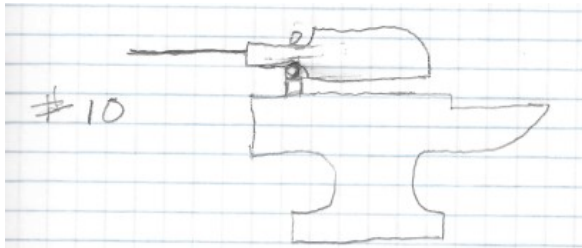
Mark Hohulin

In early October John Latowski and I attended a knife making class at Conner Prairie taught by Nathan Allen. Following is the notes on how to make a pattern welded knife blade.

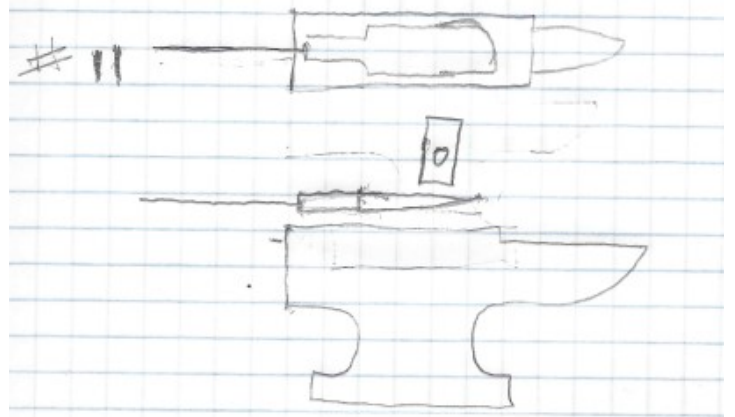
1. Cut a quantity of 9, 3" long pieces of wrought iron and spring or tool steel (5 pieces of wrought and 4 pieces of spring/tool steel)
2. Stack the material in an alternating stack, wrought, spring, wrought, etc.
3. MIG weld the one end of the billet and a piece of mild steel to act as a handle
4. Forge Weld the billet into one piece
5. Bring the billet to a forging temperature and use the power hammer to reduce the billet in height while maintaining the billet width between 3/4" and 1"
6. Once the billet is between 10 – 12" cut the billet into 3 equal sections
7. Forge weld the 3 pieces into a new billet
8. Repeat steps 4 thru 7 until you have a knife blank of 243 layers (27, 81, 243)



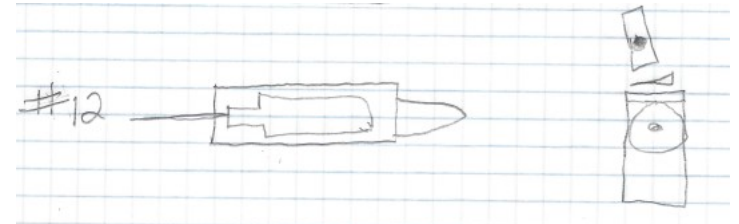
9. With the knife blank on its thin edge, start back about 2" from the end and hammer the blank to a point maintaining the thickness of the blank
10. Using a spring fuller establish the knife tang



11. Position the knife blank with the wide face parallel to the face of the anvil, hammer the blank to a wedge just in front of the tang to the tip of the knife
12. Position the knife blank with the wide face parallel to the face of the anvil, hammer the blank to a wedge from the spine of the knife to the edge of the knife. This will forge the edge of the knife.



13. Bring the knife up to a non-magnetic state and place the blank in lime overnight to cool slowly
14. Grind off all scale with a belt sander
15. File with a Bastard file across the face of the blank until all the scale is gone



16. File with a single cut file along the length of the blank until all of the cross markings are gone
17. Using 180 grit sandpaper, sand across the face of the blank until the file marks are gone
18. Using 320 grit sandpaper, sand along the length of the blank until the cross markings are gone
19. Make sure the blade is wiped clean with a de-greaser such as acetone before etching
20. Place in Muriatic Acid for one hour
21. Dilute the Muriatic Acid with water
22. Neutralize the Muriatic Acid with Baking Soda
23. Bring the knife up to a non-magnetic state and quench the blank in the appropriate liquid for the steel (oil or water)
24. Using 320 grit sandpaper remove the coating from the heat treat process
25. Add the handle
26. Add a pewter transition from the handle to the blade
27. File the pewter transition to the proper shape
28. Sharpen the cutting edge of the knife



# Chisel striking end mushroomed: a way to tell if mild or tool steel article

## Mushrooms

The striking end of chisels are not hardened, and therefore tend to gradually mushroom as they are beaten on. [The picture below](#) shows a badly mushroomed tool in front, and what it should look like in back.



A mushroomed chisel-head (front) and the same one, properly trimmed (rear).

Mushrooming makes the chisel harder to strike accurately and the rolled edge eventually breaks up, leaving sharp edges. Keep the ends close to their original shape by touching up periodically with a bench grinder. If you don't have a bench grinder you can lock the chisel in a metal vice and use a small angle grinder to clean it up. Very often flea-market tools are found in this condition. If you are buying old chisels to re-grind into sculpture tools, the mushrooming can be a clue to the quality of the steel. As a rough rule of thumb, deep cracking and broken off chunks around the edge of the rolled steel edge indicate higher carbon content. This is a good thing for stone tools. If some segments have broken off, so much the better. If the steel rolls around little cracking, it is probably a milder steel that will not harden as well when heat-treated. You can verify this by grinding on the bench grinder. Tree like branching sparks indicate high carbon. Low carbon steel tends to make sparks that form long straight lines.

This article reprinted from The Hammer & Tong, newsletter of Blacksmith  
Guild of Central Maryland, Nov/Dec 2016 edition





This article reprinted from The Upsetter, newsletter of The Michigan Artist Blacksmith Assoc, Nov/Dec 2016 edition

**Tools:** 3 fullers, 1 small cold chisel, 1 ball punch, a hammer, a file and the flypress (if you have one).

**Process:**

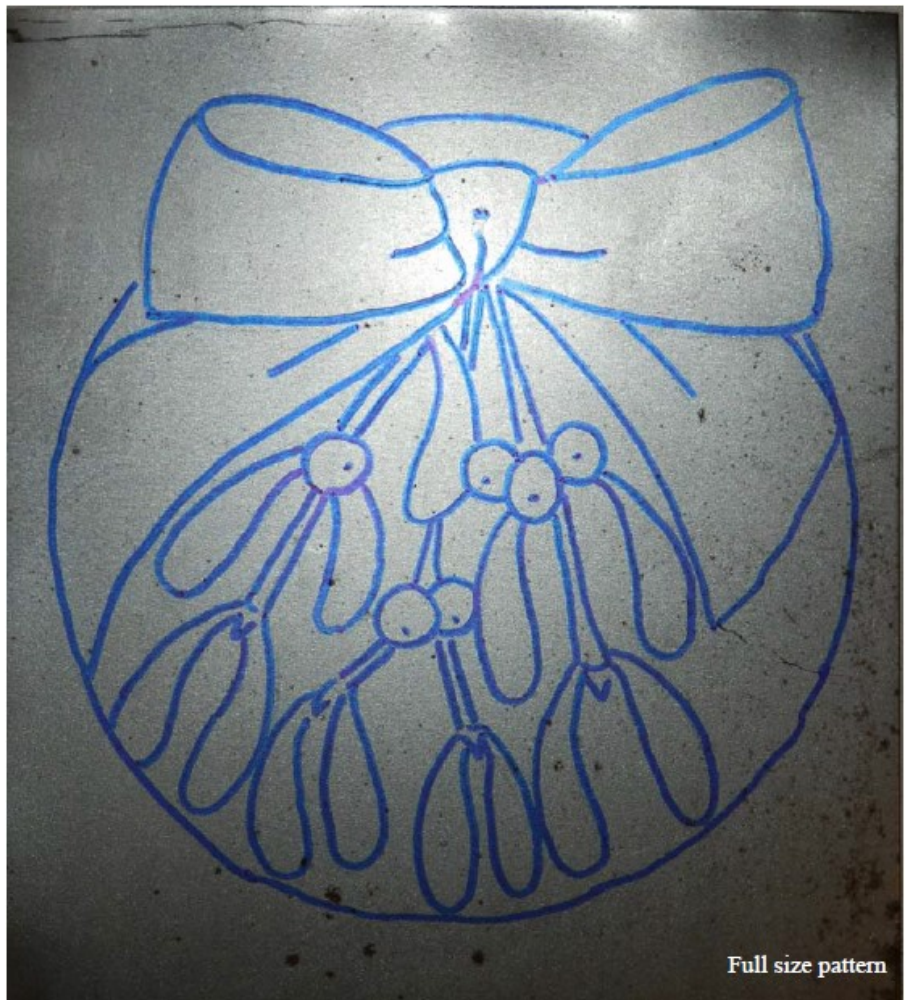
- 1 – Work out the design. This one is *not* symmetrical on purpose. From photos of the plant, it looked like mistletoe fruits on old wood. Vintage illustrations like postcards, show berries everywhere.
- 2 – Trace the design onto the sheet steel.
- 3 – Go over the design with a fine tip permanent marker.
- 4 – With the pattern facing up, place the work piece on a solid metal surface, partially cut through the perimeter with a small chisel.
- 5 – Place a piece of solid cardboard (not corrugated), under the work as padding, start to go over the entire design with a small radius fuller, using light hammer blows. You want to dent the sheet steel rather than pinch it.

## Mistletoe Ornament

*By Steven and Carol Spoerre, MABA members*

As a traditional theme for Christmas, mistletoe kissing balls are fun to have around. But forging mistletoe with its fine stems could lead to burning up a lot of small pieces in the forge. Not a fun project for the holiday and not one you would want to repeat as a gift. After doing a Google Image search it was clear that many past metal smiths had represented mistletoe in repoussé. There are wonderful intricate art deco and art nouveau designs, many worked in silver.

The pattern Carol sketched has little that overlaps so it is simple for a beginner to chase and repoussé with minimal tools. It's about 5" in diameter and weighs less than 3 ounces when made out of 22 gauge sheet metal, it would work nicely in copper also. A horizontal notch along the knot of the bow will let you suspend



Full size pattern



7 – Detail line were added to the interior of the leaves with the fuller.

8 – Flipping the work over you will see the outline on the back. Over a piece of pine, the berries were bumped out from the back with a ball tool.

9 – A large fuller was positioned in the larger portion of each leaf and driven down, staying in only that one location. This gives the leaf some general dimension and depth but doesn't introduce a hard reflective surface.

10 – The ribbon was bumped out using the large fuller, moving along paths that paralleled the edge. More passes were done in the centers of the ribbon segments to create a dome affect.

11 – Using a soft rubber mallet and some small pieces of soft pine, most of the distortion was smoothed out.

12 – Working on the front, the small fuller was used along the edges of the leaves, berries and ribbon to confine the distortion to those areas and leave the background relatively flat.

13 – Working over a cutting plate, go around the perimeter with the cutting chisel and cut the ornament from the plate.

14 – Remove the rag and sharp edges from around the ornament with a file.

15 – Make final adjustments to eliminate any warp or distortion.

16 – Clean the ornament to remove permanent marker and pencil lines, and prepare for finish application.

17 – A light coat of gilders paste was used to subtly accent the leaves, ribbon and berries.



18-



## IRON CANDY CANES

1. Start with 1/2" diameter round stock. Use a piece about 2 feet long to avoid using tongs.

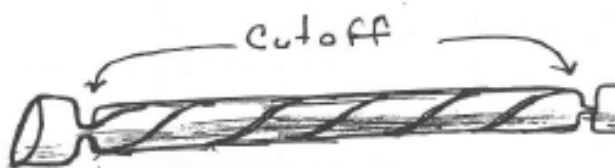
2. Heat the end and square up about 1/2" of the stock for holding in vice.



3. At a yellow heat, groove 3 lines for 11 inches, using a chisel while placing the stock in a half round hardy or swage block. Repeated heats will be needed. You will only get a few inches at a time.



4. Place the square end in a vice and use channel locks or vice grips to make a slow twist in grooved portion. Quench if necessary to keep the twist even.



5. At a yellow heat cut twisted portion off on hardy while rolling piece to center. This keeps the stock round and looks more like an actual candy cane. Dress and round over ends to remove any sharp edges.

6. At a yellow heat use a wooden mallet to bend shape over horn.



7. Clean up the candy cane with a wire brush or on a wire wheel. Apply wax or other finish.

## CHRISTMAS PROJECTS

### REINDEER SHOES TREE ORNAMENT

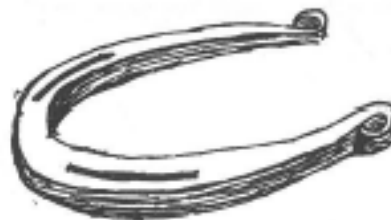
1. Start with about 4-1/2" of 1/4 x 1/2 flat bar.
2. Taper both ends from middle.



3. Bend scrolls on same side of each end. Scroll pliers could be used.
4. Make nail groove with chisel.



5. Bend around horn and make both sides even and the same.



6. They can be brushed with brass brush or use Ron Galloway's method of applying copper.





**The *FORGE FIRE***  
Newsletter of the  
Indiana Blacksmithing Association, Inc.

**Farrel Wells** *Membership Secretary*  
8235 E 499 S  
Dunkirk, IN 47336-8807

First Class Mail

Address Correction Requested  
If Undeliverable return to  
sender

---

## **November 19 Hammer In Covered Bridge Blacksmith Guild**

At the Parke County Fairgrounds. just north of Rockville Indiana on US41. the address is 600 Nth US41 Rockville Indiana.

The meeting will start at 9 am. pitch in lunch and iron in the hat.

## **December 10 Hammer In**

**Don Reitzel's Shop, 4113 W County Road 900 S, Stilesville, IN  
46180**

Directions: Take I-70 west of Indianapolis to exit 59 (SR 39). North on SR 39 for 1 mile. Turn left on County Road 900. Shop is about 6 miles on left.