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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)

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*.

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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 Ron Gill  
317-374-8323 for details

## IBA MEETING SCHEDULE

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

**June 3-5  
2022**

**ANNUAL CONFERENCE  
TIPTON CO. FAIRGROUNDS**

**June 18  
2022**

**JENNINGS COUNTY HISTORICAL  
SOCIETY BLACKSMITH SHOP**

**July 16  
2022**

**Aug 20  
2022**



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## **Dates to Remember**

June 3-5  
IBA Conference at  
Tipton County  
Fairground

## **Editors Message**

### **The 2022 IBA Conference June 3-5 at Tipton County Fairground**

Hopefully we will see a solid turn out after a two year hiatus.

The Conference Brochure was sent electronically. No hard copies were printed or mailed. The brochure and registration form can be found on the IBA website (<http://www.indianablacksmithing.org/>). For your convenience the registration form is on page 9. You can print or remove the page and send in to Farrel Wells.

Some highlights:

- Featured demonstrators:
  - Pat McCarty: multiple projects, focused on public demonstrating and things that sell well.
  - Nathan Allen: simple tools and projects based on 18th and 19th century examples.
  - Jeff Reinhardt: veggie chopper (Saturday morning)
  - Darren Bender-Beauregard: French pattern hammer (Saturday afternoon)
  - Chuck Henderson: Friday evening.
- Spouses program (baskets) with Connie Retter
- Gallery
- Auction and Iron-in-the-hat. Be sure to bring high quality items.
- Done at home project: shovel, trowel or scoop
- Forging contest is TBD
- Tailgating is encouraged
- Friday night pizza
- Breakfast and lunch available on site Saturday and Sunday

Set up and tear down help is appreciated.

If you have any questions contact Daniel Sutton at (765) 586-1376

**IBA website:** [www.indianablacksmithing.org](http://www.indianablacksmithing.org) **IBA Facebook page:** [www.facebook.com/groups/IndianaBlacksmithingAssociation/](https://www.facebook.com/groups/IndianaBlacksmithingAssociation/)

## IBA Satellite Groups and News

### 1) Sutton-Terock Memorial Blacksmith Shop

Meet: 2nd Saturday at 9 AM  
 Contacts: Fred Oden (574) 223-3508  
 Tim Pearson (574) 298-8595

### 2) Jennings County Historical Society Blacksmith Shop

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

### 3) Wabash Valley Blacksmith Shop

Meet: 3rd Saturday at 9 AM  
 Contacts: Bill Cochran (812) 241-8447  
 Max Hoopengartner (812) 249-8303

### 4) Fall Creek Blacksmith Shop

Meet: 4th Saturday at 9 AM  
 Contacts: Gary Phillips (260) 251-4670

### 5) Maumee Valley Blacksmiths

Meet: 2nd Saturday  
 Contacts: Clint Casey (260) 627-6270  
 Mark Thomas (260) 758 2332

### 6) St. Joe Valley Forgers

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

### 7) Rocky Forge Blacksmith Guild

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

### 8) Meteorite Mashers

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

### 9) Whitewater Valley Blacksmiths

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

### 10) Bunkum Valley Metalsmiths

Meet: 1st Saturday  
 Contacts: Jim Malone (812) 725-3311  
 Terry Byers (812) 275-7150  
 Carol Baker (317) 809-0314

### 11) Covered Bridge Blacksmith Guild

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

### 12) Snake Road Forge

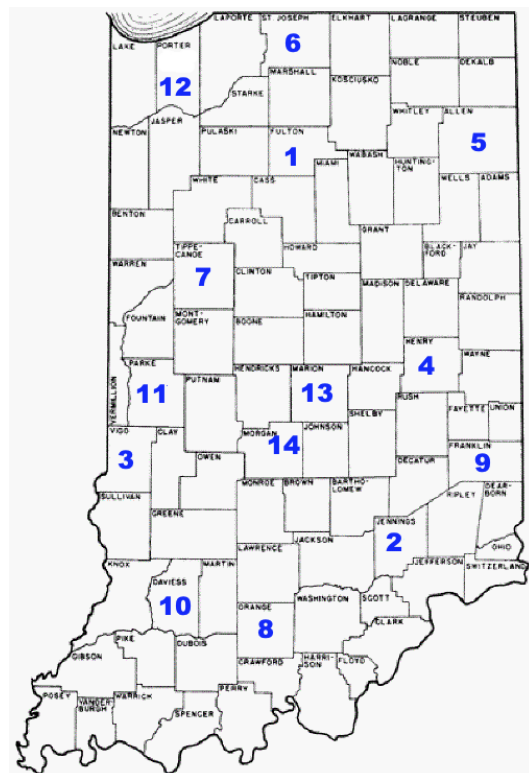
Meet: 1st Saturday  
 Contact: Rod Marvel (219) 241-0628

### 13) Satellite 13

Meet: 4th Saturday  
 Contact: Darrin Burch (317) 607-3170  
 Doug Wilson (317) 439-7684

### 14) Old Town Waverly Blacksmiths

Meet: 2nd Saturday  
 Contacts: Mike Lyvers (317-728-5771),  
 Kenny Hale (765-318-3390),  
 Mike Jackson (317-509-9115).



### Meteorite Mashers

This month's meeting was small but held in Jason Bowman's excellent huge shop. Josh Sampson demonstrated the nice style tongs he makes, and Mike Mills practiced forge welding. A small but nice Iron in the hat was held. Not one but 2 axe drifts were in the iron in the hat donated by Jason. Guess who took one home to add to my collection of tools. Jeff Reinhardt brought a sealed ammo can marked "is it treasure or is it trash". No shaking or touching the can. If you win you get the ammo can and contents. Jason Bowman could not stand the suspense and took the can with his first ticket. I suspect the contents were closer to trash than to treasure. I have a group of these cans and this will be ongoing till the cans are gone. Our next meeting of the Meteorite Mashers will be held in the shade of the Anvilstream camper at Tipton at the annual conference.

The meeting for June will again be at Jason Bowman's, since the beginners tools get a little heavier every meeting LOL



## IBA Satellite Groups and News (continued)

### Bunkum Valley Metalsmiths

This month the Bunkum Valley Metalsmiths had a good crowd and lots of metal bending. We had 2 or 3 beginners who learned the basics and made some nice s hooks. It's always great to see young people with an interest in an old art. Thank you to Jim Ray Malone and Aaron Baker for working with them. Thanks to Steve King for teaching and old dog to make a pair of tongs! It was a great day! The new kids said they can't wait to come again! Always feel welcome to join us the first Saturday. Next month the location may be different if you want to come please call 317-809-0314 for the address.





## IBA Satellite Groups and News (continued)

### Jennings County Historical Society Blacksmith Shop

The Vernon blacksmiths met on the 9th of April with Josh Simson starting a bending fork. This was made from a solid single piece, forged the traditional manor. He made a looped hook for a handle. Dave Good made a handle for a tool to be used under a power hammer. He then made a nice Calla Lily with a stem. Jim King, a newcomer, brought some factory stamped tongs to try make a pair usable. He was assisted by Dave Good and Steve King. Josh made a nice hanger hook with a large rosette. We had 14 to sign in. Next month will be the last meeting before the conference, which is the first weekend of June. Be sure to sign up. Second Saturday is our meeting, then the third Saturday, The Vernon blacksmiths and The Jennings County Historical Society will host the state meeting. That is my understanding at this time. Bring items for tool box and iron in the hat!

Paul Bray

### Sutton-Terock Memorial Blacksmith Shop

On Saturday April 9th the Sutton Terock Blacksmith Guild had their regular monthly meeting. We had a visitor and friend come to the meeting it was Todd Andrews 2008 Forged In Fire winner. He did some teaching and caught up with old friends like Tim Pearson senior member of our group. We had a great showing of old and potential new members with a total of 18 people, with one VERY promising young man named Noah Smith, and his extremely proud father. At age 14 he told us he makes knives, and wants to learn to be a total Blacksmith. When he showed us his knives he made we including Todd Andrews was extremely impressed.



Our group learning and making



Future Forged in Fire winner Noah Smith  
with Past Forged in Fire winner Todd Andrews



March-April 2022

## Dancing-Master Calipers

By Steve Alford

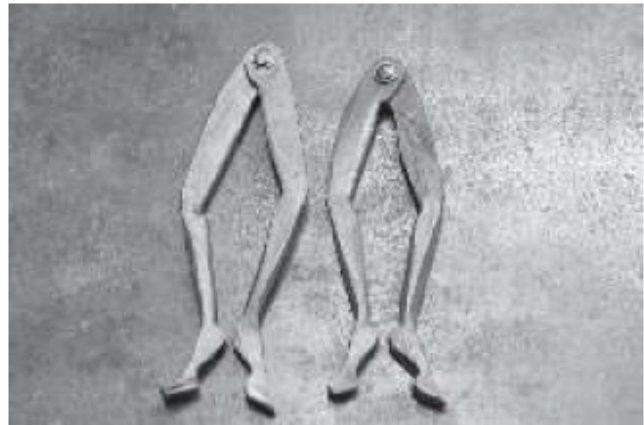
It actually took me longer to research what these things were called than to make two sets! I finally found my answer in *The Art of Fine Tools* by Sandor Nagylyzancky. "Dancing-master calipers" were often made by Victorian-era machinists. The examples in the book looked to be sawn and filed from flat stock. The originals were nicely finished, often with boots or stockings engraved in the steel.

These are blacksmith models. Zeevik Gottlieb demonstrated sculptures at the 2021 Tannehill conference where he forged legs, arms, and torsos and assembled them into figures in gymnastic poses. From comments I overheard, I know I'm not the only one who thought of using the legs to make calipers! These are inspired by Zeevik's demo. I just hope my description does justice to his presentation. Zeevik is an artist; he talks about proportions and flowing curves. I'm more a maker of tools and hardware feeling a little inadequate to describe things the way he does!

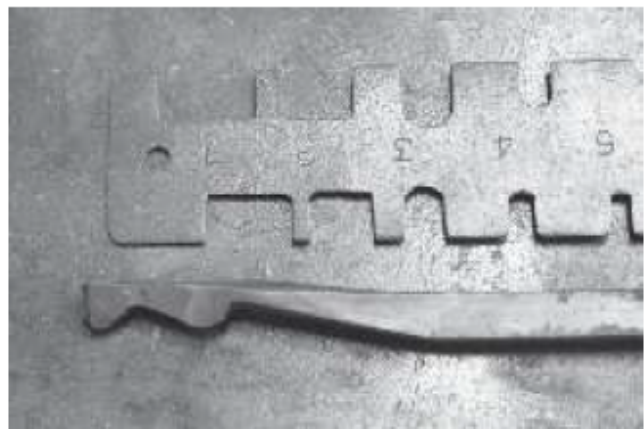
I used  $\frac{1}{4} \times \frac{1}{2}$  inch flat bar for this project. After several practice pieces I recalled how Zeevik said that these sculptures were really easier in larger stock and that there seemed to be a practical lower limit to the size of the pieces that could be made this way using the tools we usually use. But I persevered...

I was impressed by how Zeevik's horse head and leg started with the same series of steps. Half-on-half-off (HOHO) blows define first the arch of the foot and then the ankle. After rounding the ankle – I thought it looked better if I just broke the edges, more of an octagon than round – another HOHO with the tip just over the edge of the anvil turned the toes up.

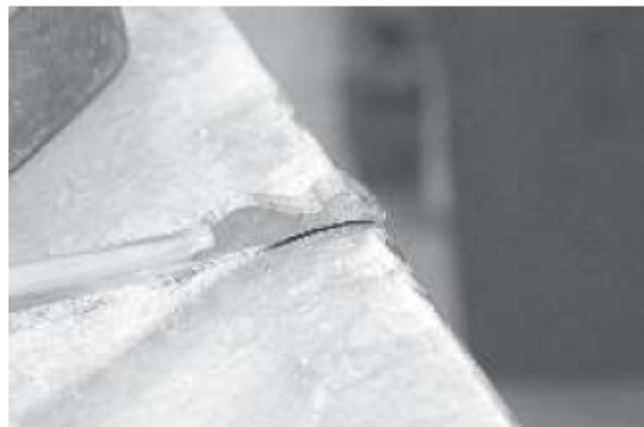
## Bituminous Bits



**Dancing-Master Calipers, blacksmith style**



**HOHO blows to set the arch and ankle, then round or just "octagon" the ankle**



**Forge and bend the toes up. "Up" is really down over the edge of the anvil**

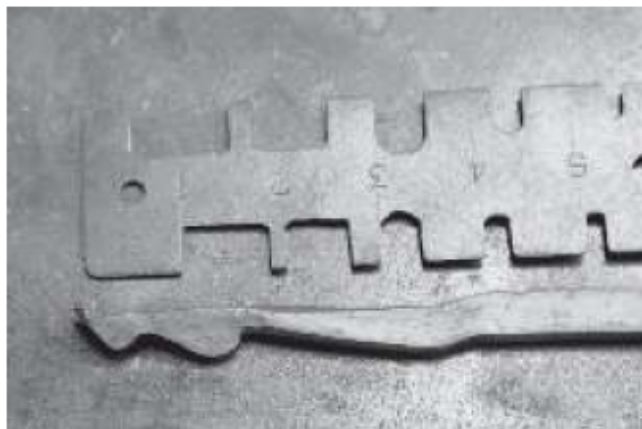


# Bituminous Bits

March-April 2022

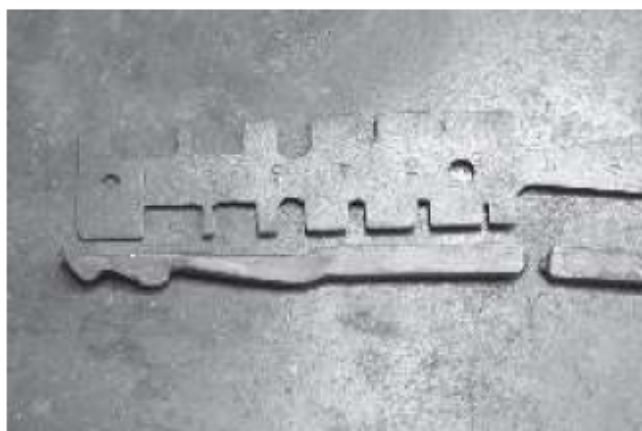


The knee called for an offset blow. That may just be my term for it. I position the bar with the location of the knee on the edge of the anvil. Then rather than HOHO, I strike with the whole face of the hammer off the anvil, with the near edge of the hammer just over the edge of the anvil. I've done this before with a bottom block and top block on the treadle hammer. Sometimes I do something similar to move an off-center knife tang more to the middle.



**Offset blow over the edge of the anvil to make the knee.**

I want the thigh and hip portion to turn out about the same length as the foot and calf combined. The thigh is going to stretch with forging, so I can cut off the parent bar with the part above the knee a little short. After cutting off, I use the cross peen to make the thigh wider and also forge the hamstrings and quadriceps to nice curves, or at least don't just leave them as straight bar! I use another HOHO blow to define the top of the thigh, and the corner of the cross peen or a ball peen to spread out the material where the rivet will be.



**Cut off so the upper part will come out about the same length as the foot and calf combined. The material above the knee will stretch some by the time it's done.**



**Round off the cut end. Use the cross peen to make the thigh wider. Smooth everything out and taper. Make sure the hamstrings and quadriceps have some curvature.**

## March-April 2022

Finally I bend the ankle and the knee. The "trick" to making identical pieces is to start with identical pieces of stock and then do the same steps to each. I violated that rule with this project by making the legs one at a time, but I did keep the first finished leg on the anvil while forging the second, the better to make everything turn out the same. As with making tongs, the idea is to make two identical legs that will fit together when one is flipped over for assembly. There's a temptation to make a left and a right, but that doesn't turn out. Make both the same. If you keep everything straight and even there may be no fitting after assembly. I had one pair go together with no adjustments; the other had to bend one leg slightly to get the heels to line up.

I cleaned up the pieces with a file to remove any sharp spots and get the bearing surfaces flat and smooth. I used 3/16-inch rivets, so drilled the legs 13/64 and deburred the holes on both sides. I used #8 flat washers for a tight fit to the rivets. The rule for a nice round rivet head is to cut the rivet longer than the total thickness of the pieces to be joined, plus 1.5 times the diameter of the rivet. 1.5 times 3/16 is 9/32, between 1/4 and 5/16. The thickness of two legs and two washers came to 5/16, so I cut the rivets 9/16 long.

I assembled the legs and the washers with the rivet and held the whole assembly in place on the anvil while using a ball peen to set the rivets cold. Somewhat miraculously, the joint came out with a nice friction fit when I stopped hammering the rivet to check!

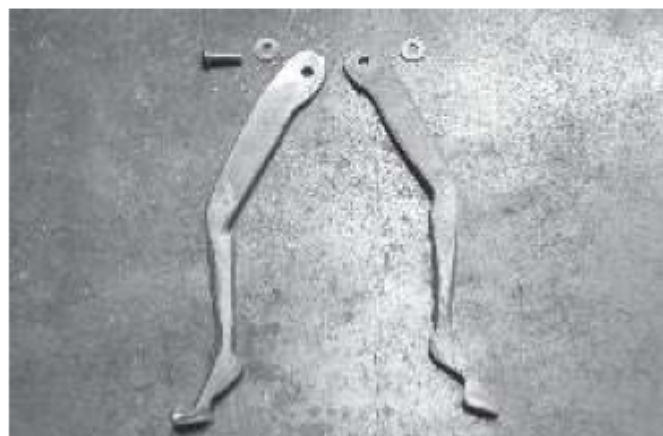
## Bituminous Bits



**HOHO to define the top of the thigh. Also puts a little more curve in the hamstring.**



**Spread out and round the hinge area. Bend the knee and ankle. File the joint surfaces flat and file any sharp edges.**



**Two legs, two washers, and a rivet.**



## Indiana Blacksmithing Association, Inc. 2022 Conference Registration

---PLEASE PRINT CLEARLY &amp; FILL OUT COMPLETELY---

Name \_\_\_\_\_

Name(s) of others you are paying for: \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Phone \_\_\_\_\_

Email \_\_\_\_\_

Blacksmithing Association(s) you are a member of: \_\_\_\_\_

	In Advance		At Door		# People	Total
	One Day	Weekend	One Day	Weekend		
Member of any Blacksmithing Association	\$30.00	\$42.00	\$35.00	\$47.00		\$
Additional Family of Members	\$3.00	\$5.00	\$4.00	\$6.00		\$
Non-Members	\$35.00	\$47.00	\$40.00	\$52.00		\$
Additional Family of Non-Members	\$4.00	\$6.00	\$5.00	\$7.00		\$
Basket Class	No Charge					
Saturday Buffet	\$10.00		\$12.00 (limited availability)			\$
Camping Fee - \$30.00 per night per unit Electric & Water Hook Up (Fairground Fees)	\$30.00	\$60.00	\$30.00	\$60.00		\$
Primitive Camping (no hook up, Fairground Fees)	\$10.00	\$20.00	\$10.00	\$20.00		\$
<b>TOTAL AMOUNT ENCLOSED</b>						\$

Check # \_\_\_\_\_ Dated \_\_\_\_\_ 2022

Please make checks payable to Indiana Blacksmithing Association, Inc.

Please reserve \_\_\_\_\_ spaces for the Beginner's Class. Names: \_\_\_\_\_

Yes, I will help make the conference great with the following:

\_\_\_\_\_ Iron-In-The-Hat items

\_\_\_\_\_ Auction Items

\_\_\_\_\_ I will volunteer to be sold for a day

\_\_\_\_\_ I will enter the Done At Home contest

\_\_\_\_\_ Please give me tailgate space (NOTE: You must be registered for the conference)

\_\_\_\_\_ I would like to volunteer to be a videographer

\_\_\_\_\_ I will help setup on Friday

\_\_\_\_\_ I will help tear down on Sunday

SPECIAL NOTICE: A drawing will be held Saturday after the auction for two early registration prizes. (See page 2) Your name will be included in this drawing only if your registration reaches us by May 18th, 2022. No other action is needed on your part.

RETURN YOUR REGISTRATION with check made out to Indiana Blacksmithing Association, Inc. to

INDIANA BLACKSMITHING ASSOCIATION, INC.  
Farrel Wells, Registration Coordinator  
8235 E 499 S  
Dunkirk, IN 47336-8807  
(765) 209-4198

Confirmation will not be sent

**Read and sign the wavier on the back side of this registration**  
**This will save time at the registration table**

**WAVIER**

In consideration of the Indiana Blacksmithing Association, and it's hosts and demonstrators, making these demonstrations available and granting permission to enter the area of said demonstrations, I hereby waive all claims for damage and/or loss to my person or property which may be caused by any act, failure to act, of the Indiana Blacksmithing Association, its officers, agents, employees, and hosts and demonstrators. I understand that there are inherent dangers in blacksmithing and I assume the risk of all dangerous conditions in and about such demonstrations and waive any and all specific notice of the existence of such conditions. By signing this waiver, I acknowledge that I have read and understand such waiver.

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**RETURN TO:**

**INDIANA BLACKSMITHING ASSOCIATION, INC.**  
**Farrel Wells, Registration Coordinator**  
**8235 E 499 S**  
**Dunkirk, IN 47336-8807**

# Bituminous Bits

March-April 2022

## Punching and Drifting Tip

By Mark Ling

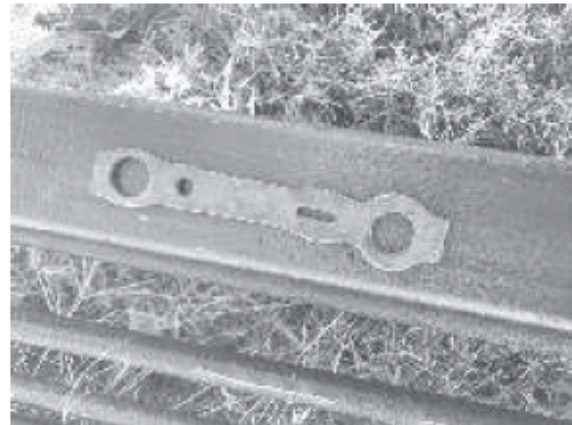
[Mark put this up on Facebook. I asked his permission to share it here in the Bits. - Steve]

Look at the difference between a round-punched and drifted hole and one that was slot-punched. The bar here is  $\frac{1}{4} \times \frac{3}{4}$  and I'm drifting the holes to  $\frac{3}{4}$  inch.

I see a lot of folks making bottle openers with rings looking like the hole on the left. This is not a proper forging. The hole on the left is wrong and the one to the right is correct. When I say it's wrong I do not mean that it may not have a purpose. I mean that it is not a clean, efficient, or structurally strong forging.

Regardless of application, in theory and principle the round-punched hole is weak. The round-punched hole has to be stretched to the final size and is much thinner around the perimeter of the hole. The round-punched hole took extra heats that were not needed for the slot punched hole.

The slot-punched hole is merely opened up with minimal stretching to achieve the  $\frac{3}{4}$  inch final hole size. It has an even mass around the perimeter of the hole, substantially more mass than the round-punched hole. That is the strongest way of putting a  $\frac{3}{4}$  inch hole in a  $\frac{3}{4}$  inch wide bar. The series of tools for the slot-punched hole was a slot punch  $\frac{3}{4}$  to  $\frac{13}{16}$  wide, then a  $\frac{5}{8}$  slot drift to open the hole, then a  $\frac{3}{4}$  final size drift.



**Above: Round-punched and drifted hole on the left, slot-punched and drifted hole on the right.**

**Below: Face and side views of the slot punch and  $\frac{5}{8}$  slot drift.**







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Newsletter of the  
Indiana Blacksmithing Association, Inc.

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

First Class Mail

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sender

## **IBA Conference: June 3, 4, 5** **Tipton County Fairgrounds**

Featured Demonstrators:	Nathan Allen & Pat McCarty	
Saturday Only Demonstrators:	Jeff Reinhardt & Darren Bender-Beauregard	
Friday Night Demonstrator:	Chuck Henderson	
Spouses Program:	Connie Retter	
Forging Contest	Beginners Area	Tailgating
Gallery	Iron-in-the-Hat	Auction

## **June 18 Hammer In** **Jennings County Historical Society Blacksmith Shop**

258 N CR 800 E, Sullivan, IN 47882

**Driving Directions:** Take SR3 / SR7 to Vernon, IN. Turn north on Pike St at county courthouse. Blacksmith shop is 2 blocks on right.

Please bring a dish or dessert to share.