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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.

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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.

**Apr 16  
2022**

**BOB HUNLEY'S SHOP  
SULLIVAN, IN**

**May 21  
2022**

**TBD**

**June 3-5  
2022**

**ANNUAL CONFERENCE  
TIPTON CO. FAIRGROUNDS**

**June 18  
2022**

**JENNINGS COUNTY HISTORICAL  
SOCIETY BLACKSMITH SHOP**



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THE NEW SPRUCE  
FORGE MANUAL  
OF  
LOCKSMITHING

## **Dates to Remember**

June 3-5  
IBA Conference at  
Tipton County  
Fairground

## **Editors Message**

### **IBA Business Meeting:**

discussions touched on three primary topics:

1. Election and appointment of officers: No nominations for board members were submitted. Steve King and Gary Phillips agreed to serve another term and were elected by acclamation. All officer and chair positions remain unchanged with the exception that Steve and Gary swapped president and vice president roles.

### 2. IBA Conference:

- The entire IBA board is working on coordinating this year's conference. The conference will be held on the first weekend of June at the Tipton County Fairgrounds.
- Featured demonstrators are Pat McCarty and Nathan Allen, with half day demonstrations by Jeff Reinhardt and Darren Bender-Beauregard, and Chuck Henderson on Friday evening.
- Connie Retter will lead the spouses program
- Gallery
- Auction and Iron-in-the-hat
- Done at home project: shovel, trowel or scoop
- Forging contest is TBD

### 3. IBA injury protocols

- Earlier this year a person was injured at a hammer in. There was uncertainty about how to document the injury and process a claim with the IBA insurance carrier. There also was uncertainty regarding coverage to satellite locations.
- The board has been in contact with the insurance carrier and is developing standard forms for documenting and reporting injuries at IBA functions.
- More specific details will be coming in a future edition.

**2022 ABANA Conference Canceled:** Message from ABANA president on page 4.

**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

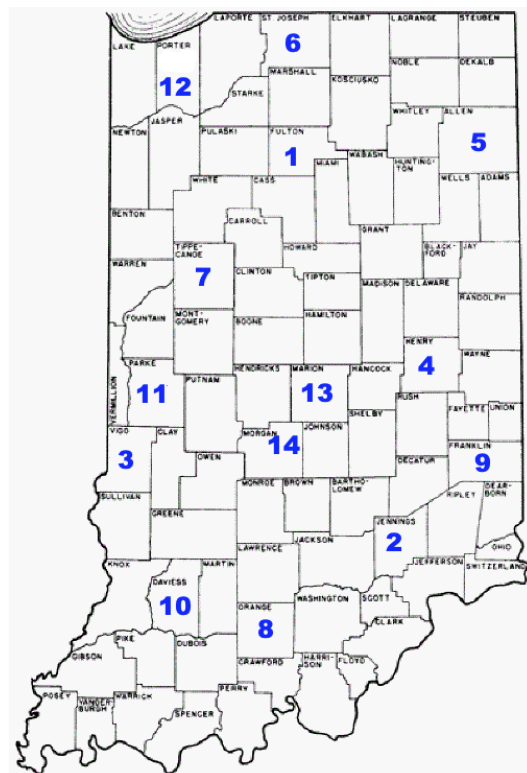
Meet: 1st Saturday  
 Contact: Rod Marvel (219) 241-0628

### 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).



### Jennings County Historical Society Blacksmith Shop

The Vernon blacksmiths met at Kevin Welsh forge on the 12th. Kevin demonstrated how to mass produce twisted "S" hooks. Dave McNulty and his son revised a tripod. Kevin drew out a couple of spikes to form steak turners. Josh Simson made a pair of calipers, (nice job). Gary Johnson and Kevin drew out a RR spike and formed an animal head on the spike head. It was either a ram's head or a buffalo, I didn't get a good look at it. Our next meeting will be back at Vernon on April 9th. Bring something good for iron in the hat and I will bring my wallet. You do the same please! Paul Bray

## IBA Satellite Groups and News (continued)

### Meteorite Mashers

The march meeting was at Jeff Reinhardt's shop in Floyds Knobs. Small but good crowd. Had a Father and son come for their first intro into blacksmithing. Instructed in a beginners class by Mike Mills, 12 year old Nick was in Heaven as he often declared through the day. His father was pretty happy as well. Jeff made bean soup with a Kick for lunch, Miss Donna Kunkler sent brownies with Dave that were excellent. A great time was had by all. The next meeting will be at Jason Bowman's shop in Elizabeth Indiana.



## From the President's Anvil

It is with a great deal of sadness that I write today to announce the cancellation of the ABANA Conference scheduled for the North Texas Fair & Rodeo in Denton Texas May 11-14.

After many months of planning and building a conference that would have put ABANA back to having premier conference events and after a long hiatus due to the COVID-19 pandemic, we have failed to get enough pre-registrations to indicate that we will, in the end, be able to pay for such an event.

At current, we have only booked 128 registrations and 53 spouse/child registrations bringing us to just under \$52,000 in receipts. is only a small uptick of registrations from March 11 when I sent you the last message. the break-even point of \$130,000 we cannot reasonably assume that the balance will be forthcoming.

It's hard to tell the reasons for lagging registrations. people are still anxious about the latest variant of COVID-19 or concerned about rising inflation and the price of travel, both gas prices and airline tickets. Or, perhaps the events of the past two years have changed the way people interact.

Whatever the cause, ABANA will endeavor in the near future to ascertain why and adjust to the desires of its members and supporters.

In the interim, we will be refunding everyone who has registered, with the exception of those who paid for 2022 miniature anvils; those will be shipped free of charge.

Your comments would be helpful. direct them to me [president@abana.org](mailto:president@abana.org) Together we will adjust and find a path for the future of ABANA.

Lastly, my heartfelt thanks go to the North Texas Blacksmith's Association, the cooperating ABANA affiliates, and their members and the entire 2022 Working Committee for their tireless work planning what would have been an outstanding national conference with smiths from around the world.

Leigh Morrell,  
ABANA President

## Connections

### Square Tenons

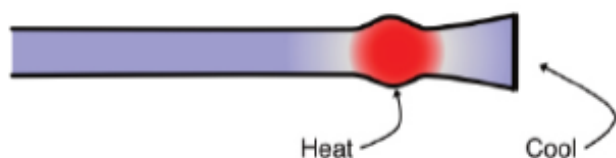
This is one method of forming tenons, by hand. Dies, power hammers, hydraulic presses and the like will make the job easier, but if you can't do it by hand, machines won't do it for you.

Measurements are important. "Measure twice, cut once." Material in this example is 5/8" x 5/8" mild steel.

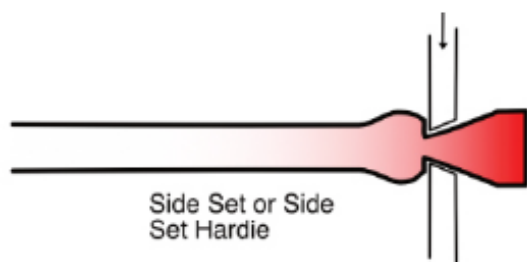
1. Upset end of bar approximately 1/2".
2. Localize heat and upset.
3. Use Side Set or Spring Fuller to establish tenon and



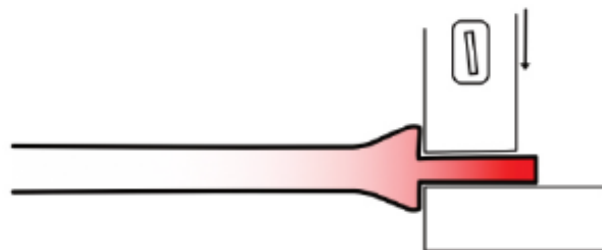
shoulder.



Side set (side set hardie may also be used).



- 4 Use Set Hammer and Bottom Tool (or square anvil edge) to square up and draw out tenon. The Post Vise works well as a "poor man's screw press" for evening up tenon.



5. Even up shoulders and upset with Monkey Tool.



6. Hot rasp shoulder and tenon square with Horseshoer's Rasp - check for size and fit with mortise. Tenon should extend about 1 1/2 times diameter of tenon through mortise hole.



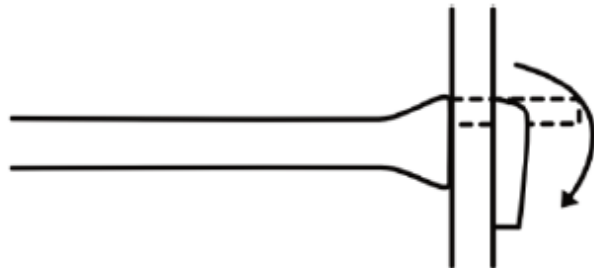
Editor's Note: These six pages are reprinted from the March/April 2022 edition of the California Blacksmith Online newsletter. The article was written by Jay Burnham-Kidwell of Golden Valley, AZ.

## Connections

### Tenon Variations

Here are a few mortise and tenon variations for your information. The techniques, variations, and applications are innumerable.

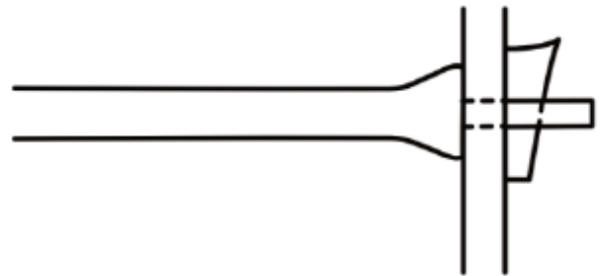
1. Single shoulder side bent to 90°.



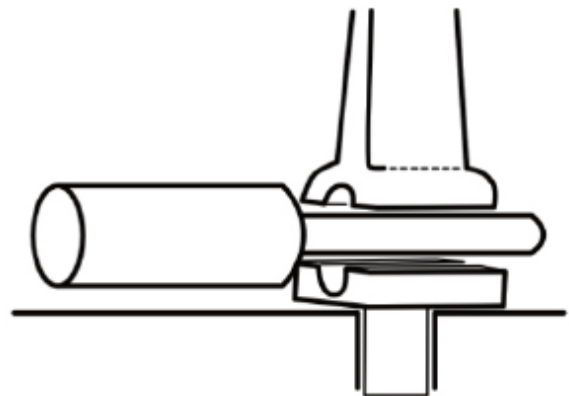
2. Flat stock tenon: Hot cut initially, no upsetting required, stock remaining forms shoulder.



3. Tenon with inserted wedge. Tenon must be punched to accept wedge tightly.



All tenon connections require careful consideration as to application to design and object, strength and accurate measurement. Square tenons will not rotate in the work - an important aspect of furniture making. Round tenons will require SOR forging and the use of top and bottom swage tools.



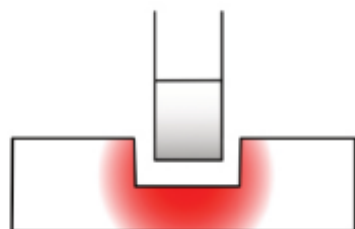
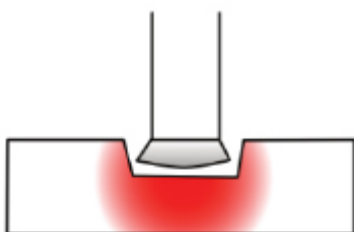


## Connections

### Slot Punching

Measure and Mark! Use a test piece ("sketching in iron") to determine material stretching or shrinking in length, if any.

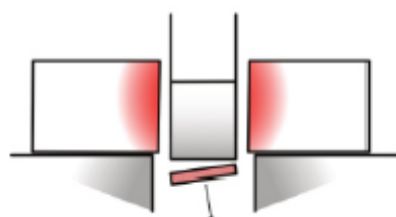
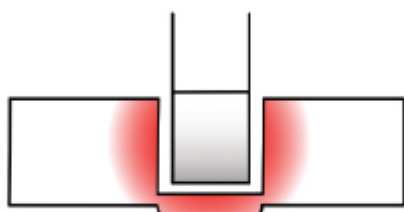
1. If using a Slitting Chisel, the chisel width is approximately 1 1/2 the width/length of the hole desired.



2. If using a Slot Punch, the punch is approximately the same width/length of the hole needed.

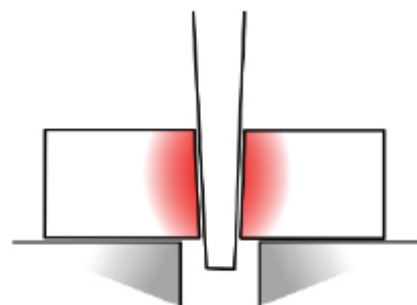
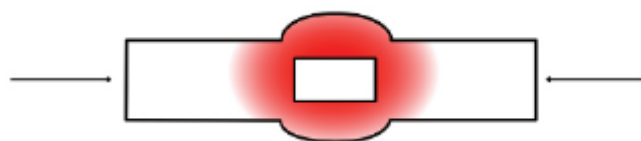
*Cool the Tool repeatedly!!* Use coal dust or oily scale in hole to keep tool from sticking, cool the tool to prevent it from mushrooming in material. (BAD).

3. Punch or Slit through about 95% of stock thickness.



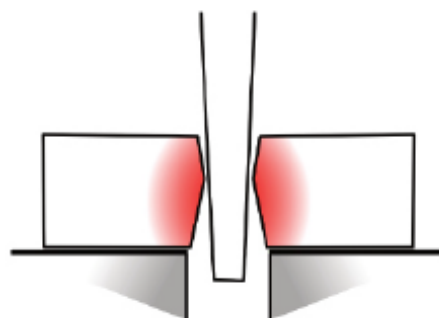
4. Flip stock over Hardie Hole, Pritchel Hole, or use a bolster, punch slug out.

5. Localize heat and upset shoulders of hole; a post vice comes in quite handy here.



6. Use an opening punch to enlarge the hole to size, again over hardie, pritchel, or bolster.

7. Drift hole to size from both sides. In some cases, the punch may be used as the drift. Experiment!



## Connections

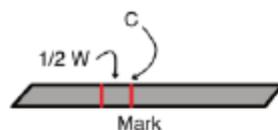
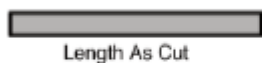
### Collars and Wraps

#### Hot Collars

Most collar connections are put on hot, usually with an Oxy/Acetylene or Oxy/Propane torch for spot heating. I have seen (but not had much success in doing so) collars that were preheated in the forge and driven on while still hot. I have better luck using a torch for heating the collar. The collar, when driven on tightly hot, will shrink when cooled and thus tighten the joint even more.

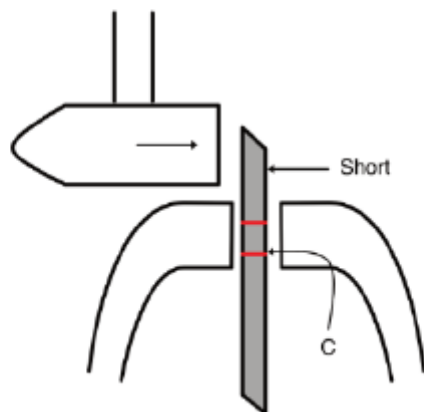
To determine the length of the collar material: measure *around* the pieces to be collared, plus  $2\frac{1}{2}$  times the *thickness of the collar material*. This will be the cut length before beveling the ends.

For example: if  $\frac{3}{16}$ " stock is used for the collar, add  $\frac{5}{32}$ " to the length. Bevel both ends on *opposite* sides of the collar. The bevel length is 2 times the collar thickness; with  $\frac{3}{16}$ " stock, this would be  $\frac{3}{8}$ ".



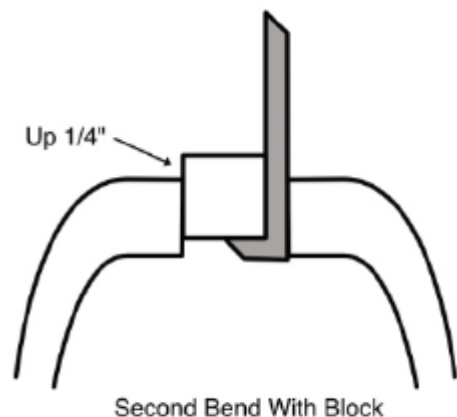
Find the center, and mark  $\frac{1}{2}$  of the desired width of the collar on one side of center.

Place the long end down in the vise and make the first bend to  $90^\circ$ .

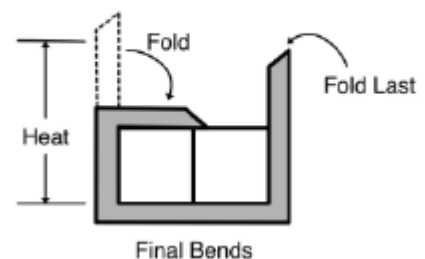
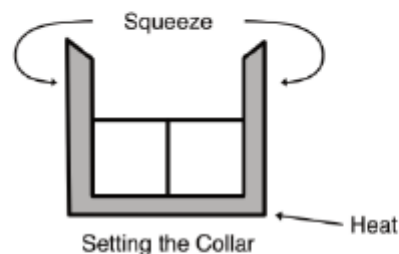


If you put the short end down and bend the long end, you will lose material towards the center and the collar will not come out with even ends.

To make the second bend, make up a *die block* of the material to be collared; grind off the sharp edges, the block can be slightly smaller (a few thousandths) than the material to be collared. With the die block held in the vise the second bend can be made.



To set the collar, place it in position *cold*, drive the material into it with a set hammer -- *tightly*. If the collar spring open, heat the lower corner and squeeze it at the ends to make the collar fit tight at the bottom. Then heat about halfway up the collar to the bevel, fold over quickly with *sliding hammer blows*. Repeat on the other half. Let cool.

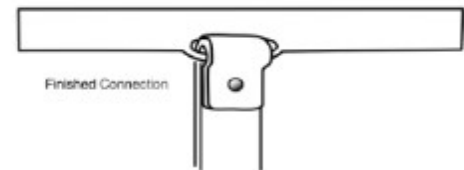
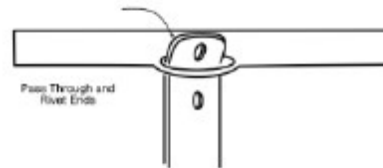
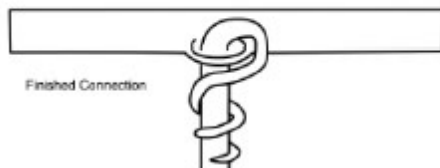
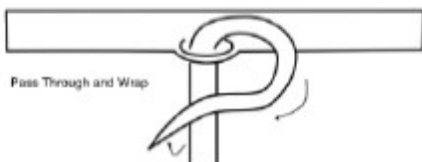
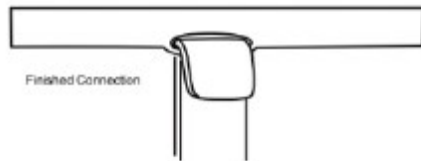




## Connections

### Pass-Through Connections

These connections can be readily used at vertical and horizontal junctions. There may be some movement, but if place *hot and tightly*, they will usually shrink and the tension will hold the connection snugly.



These connections can be readily used at vertical and horizontal junctions. There may be some movement, but if place *hot and tightly*, they will usually shrink and the tension will hold the connection snugly.

Nuts and bolts, articulated (moveable) connections and socket bearing connections can also be employed. The above are but a few of a technique that is almost endless in the variations, applications, and combinations possible.

Have fun with it! Experiment! Take chances! Happy hammering, and remember: *Share the Knowledge!*



## Connections

### Bibliography

The Blacksmith's Cookbook. Francis Whitaker, 1986. Jim Fleming Publications, Vail, CO.

The Blacksmith's Journal. Jerry Hoffman, 1990-present. All volumes. Missourian Publishing Co.

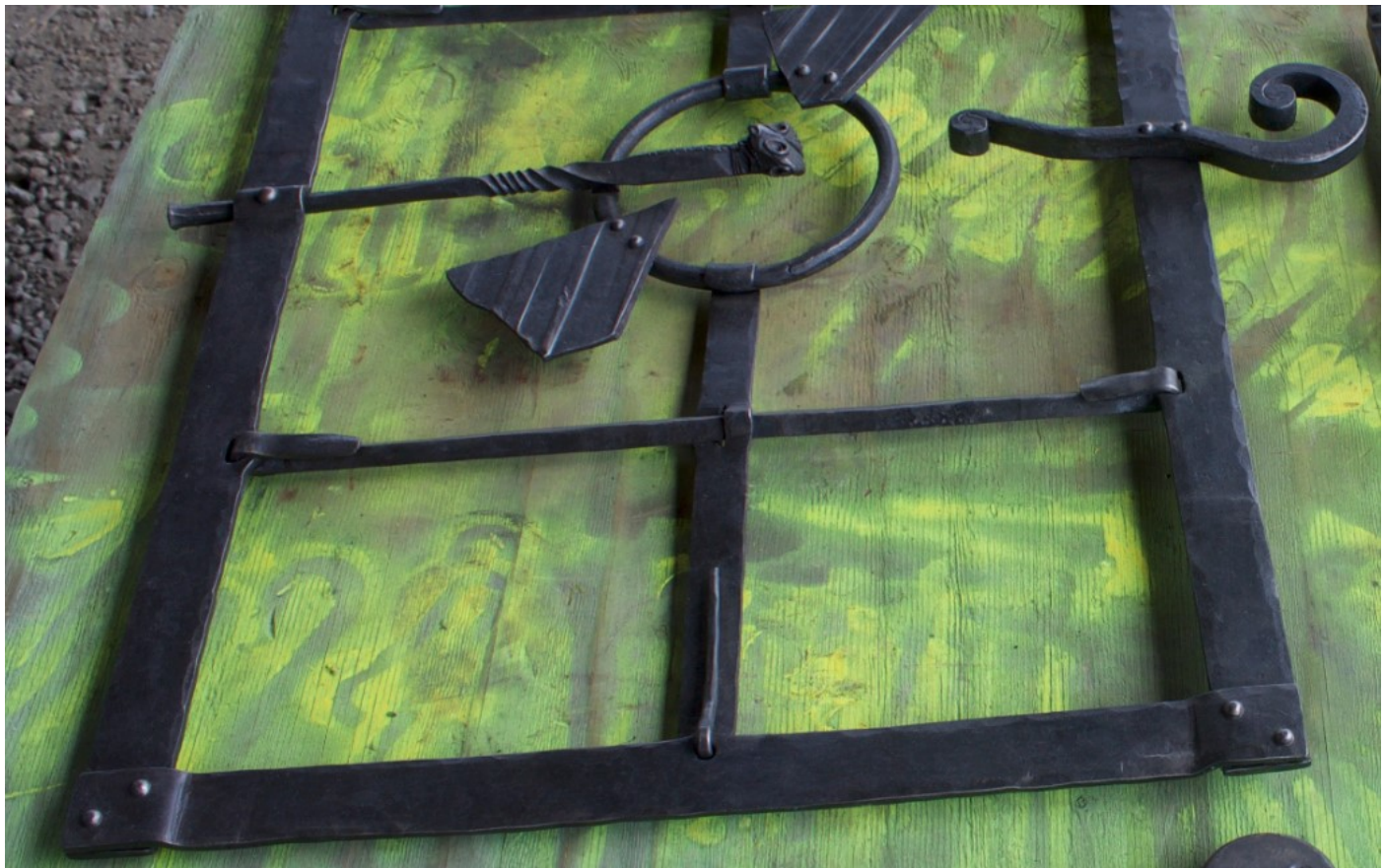
The Contemporary Blacksmith. Dona Z. Meilach, 2000. Schiffer Publishing, Atglen, PA.

COSIRA (Council for Small Industries in Rural Areas). COSIRA and Tommy Tucker, 1979. 3 Volumes: The Blacksmith's Craft, Wrought Ironwork, Decorative Ironwork. Published by the Council for Small Industries in Rural Areas (Advisory Services Division).

Metallgestaltung: vom Werkzeug zur Form. Achin and Hildegard Kuhn, 1993. Charles Coleman Verlag, GmbH, Lubeck, Germany.

Das Schlosserbuch. Theodor Krauth and Franz Sales Meyer, reprint 1987. Th. Schafer Druckerei, GmbH, Hanover, Germany.

Stahlgestaltung. Fritz Kuhn, reprint 1981. Verlag Ernst Wasmuth, Tübingen, Germany.



Werk und Werkzeug des Kunstschmieds. Otto Schmirler, 1987. Verlag Ernst Wasmuth, Tübingen, Germany.



## The New Spruce Forge Manual of Locksmithing

By: Denis Frechette  
Bill Morrison

Artisan Ideas has published a revised edition of [The New Spruce Forge Manual of Locksmithing](#). \$44.95

At first I was hesitant to review this book. My preconceived notion was that locksmithing is a pretty narrow topic. I was also concerned the tasks would require greater precision than I would be capable of. After reading the book I feel that it has much broader appeal than I had expected. The old adage "don't judge a book by its cover" clearly applies here.

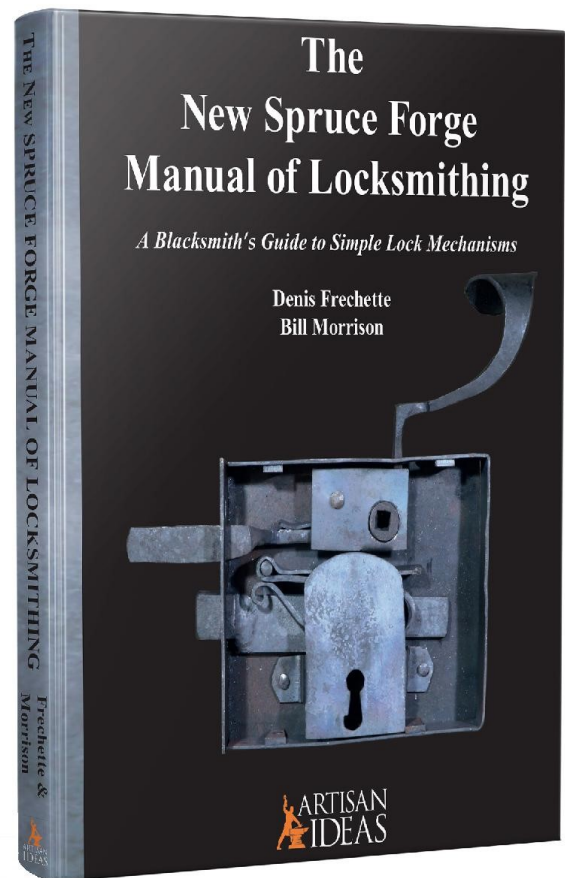
The first 70 pages focus on tools, techniques and processes. This section is new to this revision. The earlier edition had this information nested into specific projects. This discrete section makes it easier to find a desired topic.

The tools, techniques and processes section is quite helpful as it covers a number of topics not often seen in general blacksmithing books. A good amount of locksmithing entails cold work. This book goes into very good detail about creating desired shapes with cold chisels, engraving chisels, files and hacksaws. This is helpful in many different projects.

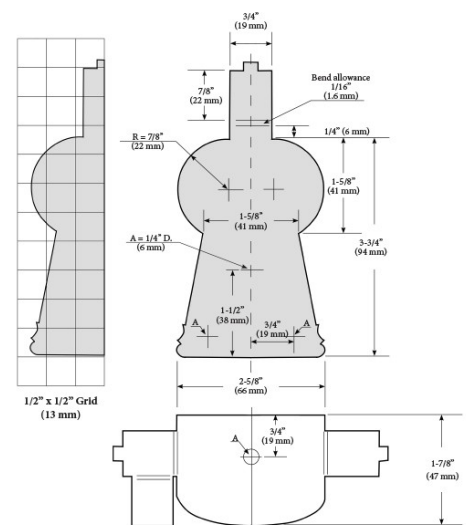
The main section of the book focuses on specific historic lock designs. There are three sections: padlocks, spring bolt locks and deadbolt locks. Spring bolt locks are biased to the locked position by a spring. Deadbolt locks also have a spring, but the spring will hold the lock in either locked or unlocked position.

The book contains 14 separate lock projects. Each project is illustrated with dimensioned layouts and patterns as well as photographs and written instructions. The instructions are easy to follow. They also include instructions on making gauge blocks to control critical dimensions of various lock parts.

Overall assessment: The book is well organized and easy to follow. The processes are presented in a way that an intermediate blacksmith should be able to complete any project while increasing their skill level. The section on tools and techniques is applicable beyond locksmithing and provides information not covered in many basic blacksmithing books.



*Cover Plate*





## **The *FORGE FIRE***

Newsletter of the  
Indiana Blacksmithing Association, Inc.

**Farrel Wells** *Membership Secretary*

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Dunkirk, IN 47336-8807

First Class Mail

Address Correction Requested  
If Undeliverable return to  
sender

### **April 16 Hammer In Bob Hunley's Shop**

258 N CR 800 E, Sullivan, IN 47882

**Driving Directions:** The best way to come is to go to Dugger first. Then turn North off highway 54 on 800 E. near the train tressel and the liquor store. (at the juncture of 54 and 159). Go North through 2 stop signs and we are out in the country on the right. We are 1.2 miles from highway 54. It's a newer tan house with a tan and black pole barn. The Blacksmith shop is in the pole barn.

Chili, crackers and coffee. Please bring a side dish or dessert

### **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

Gallery

Beginners Area

Iron-in-the-Hat

Tailgating

Auction