

## Blacksmithing – Getting Started

Roger E. Davis

My original premise in October, 2014 was “blacksmithing small,” powered by the firebrick and propane torch forge, and using improvised anvils, etc. Preparing for the meeting, I became convinced that the little propane forge is a very poor place to start, and that the approach favored since the 1970’s with a brake drum forge (similar to the one I brought to the meeting) is a far better idea. I apologize for switching gears, but as I tried doing smithing jobs that I had done before, I became increasingly frustrated. Things that I had found to be quite easy with full sized equipment (like making nails) proved to be extremely difficult with the small stuff. You are far better off getting your feet wet with somebody else’s full size tools, and with their help.

If you are unsure whether you would enjoy blacksmithing as a hobby, I recommend visiting a blacksmithing group. This lets you observe the goings-on first-hand, and you are guaranteed a chance to try out just about anything you see. These groups exist at least as much to introduce new folks to the craft as they do to serve the needs and interests of established smiths. Your initial investment will be the gas and time to attend a meeting, and the next is just \$35 to join the Indiana Blacksmithing Association. This latter expense opens the door to blacksmith groups across the state, and every one of them will welcome you to attend their meetings, try out new tools and techniques and talk with folks who started the same place you are now. Usually, there is also lunch! There is no cheaper way to get started than just showing up.

If you are one to research a hobby before even getting your toes wet, Ted Stout and I agreed on three books which provide a good introduction to the craft and are often available at libraries. These are both very good and fairly inexpensive if you want your own copy (see Amazon, *et al*).

The oldest of these and still the best and most comprehensive introduction to “guerilla blacksmithing” (making do with what you’ve got) is “The Complete Modern Blacksmith” by Alexander Weygers (apparently pronounced “wagers” as in “bets”). The current publication by Ten Speed Press is a compilation of three books originally published separately. Weygers trained in Holland as both an engineer and a blacksmith, and became a famous artist living in California later in life. Some of the items he describes making in the book will seem almost fanciful as projects, unlikely to be handmade by anyone, but there was once a one-page article in Fine Woodworking written by a fellow who took classes at Weygers’ shop and attested that it was filled with the beautiful and masterfully crafted tools that Weygers describes. This book is highly recommended for those looking to get by with the junk on hand (and everyone else), and he gives a good introduction to traditional tools and techniques, even if you have a full set of professional tools.

Randy McDaniel is now into the second edition of “The Blacksmith Primer.” This book (at least the first edition; I assume the new one is even better) provides a detailed look at traditional techniques, and offers lots of good advice, illustrated with hand-drawn figures.

A third book worth your time is “The Backyard Blacksmith” by Lorelei Sims, from nearby Charleston, Illinois. Unfortunately, this is not a book about setting up a quick and dirty smithy in

your backyard as the title suggests. Instead (like most blacksmithing books), it centers on the tools and equipment of a full scale professional smithy. Setting the title aside, this is a good introduction to the tools and the craft, and the projects are well thought out and of a good size for the beginning smith. Ted Stout and compatriots visited Lorelei's shop a while back, and they were impressed.

A fourth book (which Ted and I did not discuss) is available to download for free. This is "The Blacksmith's Craft," and can be linked to from:

<http://www.hlcollege.ac.uk/Downloads/craftpublications.html>

You will see several crafts publications offered here as PDF's for free download. The Blacksmith's Craft provides a good overview of blacksmith tools and gives detailed instructions for all the basic techniques. The techniques are used in a range of primarily agricultural projects, illustrated by black & white photographs and line drawings. This book would be a good one if you had to pay for it, and it's outstanding as a free one! You can even see the British tendency toward ball-peens as forging hammers, where we tend to use cross-peens. Note that the side-draft forges the Brits love are fairly rare here in the U.S. (we like our air blasts vertical).

The Blacksmith's Manual Illustrated, available from the same page for the same price, is a huge coverage of industrial scale blacksmithing. Much shorter on details than the first book, it covers *everything* to do with blacksmithing (as of 1930). Illustrations are all line drawings/engravings. Both of these books are broken into several modestly sized (4MB or less) PDF's, and come in fairly quickly. You can save them from your PDF reader to disk for later reading and reference. Scroll on down the list at this site for interesting reading in other traditional crafts.

So you've been to a few meetings, you've read a few books, and you'd like to start hammering metal at home. What's next? The basics are a forge, an anvil and some hammers. Ted tells me that he had nothing but a brake drum forge for many years, and he recommends that as a first forge. Lots of plans are available on the internet for these things, so sift through to find one that fits the tools and the junk parts you have available to make your own. Come to a meeting at Rocky Forge or call Ted for a phone number to get some proper blacksmith coal. Very quickly you've got enough heat to handle some surprisingly big jobs, and this forge will readily forge weld.

The anvil is a bit more problematic. An internet search will leave the new smith (and most old ones) with serious sticker shock. Cast iron ones from Harbor Freight, etc. can be just plain dangerous with pieces breaking off and the tops are completely soft. Ted again recommends what he used for several years when he started: railroad rail. Lots of folks have chunks of rail sitting around, and they come up frequently at flea markets and yard sales. Weygers' book shows how to remodel rail into serious anvils, and how to use other pieces of junk for specific operations. Necessity is very much the mother of invention here. When you want to get really serious about this stuff, anvils are always available at blacksmith gatherings and guys like Ted can be a big help in locating anvils.

Hammers are very common at flea markets and yard sales. Keep your eyes open, and you will soon find most every hammer you need at such sales and almost always under \$10 (I've bought lots for \$1). Heads without handles are especially cheap, and you're going to need to learn how to rehaft a hammer before long, anyway.

Tongs are usually not all that common at general sales. ViseGrips make good tongs, and they *are* common, both new and used. Flea market channellocks and big pliers can work quite well. Practice with these, and you'll soon be able to make any type of tongs you may need. Instructions are readily available, both in books and on the net.

Blacksmith post vises are around, but not as commonly as in pre-eBay days. Be warned that Chinese vises will come apart quite rapidly if you pound on them. Big old industrial vises (I've bought several at flea markets; folks don't want to have to load them again) will hold up pretty well, but be aware that they were never intended to be seriously pounded on. Cross your fingers and watch for a proper post vise.

You can use standard punches and chisels for most blacksmith work if you hold them with ViseGrips to get back from the heat (and/or wear a good glove). Lots of these are available for \$1 or so at flea markets, so watch for the longer ones. Chinese chisels and punches are often not too bad if you're in a hurry to get one; they are sometimes too hard and shatter. Be sure to wear safety glasses! Punches and chisels are items you can make to order from tool steel, and old ones are often very good steel and can be reworked. Carry a wad of dollar bills, and watch for hexagonal and octagonal stock at the flea market.

Fullers and swages are specialized tools, used only by blacksmiths. Most of them end up on eBay these days, so you won't see them at general sales very often. Weygers offers lots of advice on improvising these tools. Your other options are eBay, tailgate sales at blacksmith events, pay big bucks for a limited range of sizes at Centaur, Blacksmith Depot, etc. or make your own. This last option is surprisingly doable as you gain smithing experience, just as it was for smiths long ago. Bolts, pieces of pipe, miscellaneous chunks of steel, etc. can get you a lot of work done as you gain skill.

A bench grinder, an angle grinder and a SawzAll are all handy tools to have, and you may already have them for woodworking. Don't go nuts on the tool collection – just get pounding and you'll soon know what you need to add. Learning to arc weld opens up many possibilities. I favor the AC stick welder over the wire welder because of its versatility with different rods, although it is probably harder to learn. A class or a well-equipped friend might help you explore this field.

A list of resources for getting started follows below. Blacksmith forums are at least as contentious as woodworking forums and the signal-to-noise ratio is similar, but sometimes there is good stuff. I have not found a good blacksmithing blog to follow which is updated on anything like a regular basis; let me know if you succeed at this.

## Resources

### Organizations

Rocky Forge Blacksmith Guild – Local organization, meets at Ted Stout’s shop south of West Point or at Rainsville shop. Newsletters are available online: [www.rockyforge.org](http://www.rockyforge.org).

Indiana Blacksmithing Association – State organization, affiliate of ABANA. Annual conference at Tipton in June with tailgate sales, lots of demos. Newsletter are available online: <http://www.indianablacksmithing.org>.

Artist’s Blacksmith Association of North America – National organization that led the revival of blacksmithing a few decades ago. Home page is [www.abana.org](http://www.abana.org). Scroll over the “Resources” tab, and then the “Educational Resources” tab; click on “Controlled Hand Forging” to go to the “Forging Fundamentals” page. Over two dozen PDF files lay out the details of blacksmith’s work, designed in a format for learning at home.

### People

Ted Stout – Forgemaster of Rocky Forge Guild, board member of IBA, all-around friend of blacksmithing. Allegedly sells blacksmith equipment (definitely buys it).

e-mail: [stout8525@tds.net](mailto:stout8525@tds.net) cell: 765-491-2194

Roger Davis – [redavis@mintel.net](mailto:redavis@mintel.net)

Bill Reese, Richard Gorden and Rick Miller can all tell you about the meetings.

### Books

Besides the three books referenced earlier, there are lots of contemporary and classic books out there on blacksmithing. Three that are among the better old ones (and are free) are listed below. If the attached links don’t work, use the search terms. The web addresses tend to be lengthy and aren’t much fun to type in, so the search is usually easier and gives you options.

John Lord Bacon, Forge-Practice and Heat Treatment of Steel (1919) [Do a Google search for “john lord bacon 1919”; if you choose the Google books link, click the little cog under “Sign In” at the right and click on “Download PDF”.] Wiktor at WK Fine Tools is a good guy to support (and has lots of other free titles). His site should come up in the search as [http://www.wkfinetools.com/tMaking/z\\_reading/1919-ForgePractice/1919-ForgePractice-Bacon.asp](http://www.wkfinetools.com/tMaking/z_reading/1919-ForgePractice/1919-ForgePractice-Bacon.asp)

Robert H. Harcourt, Elementary Forge Practice, Manual Arts Press (1920). [search “elementary forge practice harcourt”]

<http://archive.org/details/elementaryforgepractice00harciala> (1917 edition)

Ernst Schwarzkopf, Plain and Ornamental Forging, John Wiley & Sons (1916). [search: “schwarzkopf forging”]. [http://www.bamsite.org/books/Plain\\_and\\_Ornamental\\_Forging.pdf](http://www.bamsite.org/books/Plain_and_Ornamental_Forging.pdf)  
Paperback is available at Astragal Press, <http://www.astragalpress.com>, Book Index “P”.

## **Tools**

Blacksmith's Depot: <http://www.blacksmithsdepot.com/>

Centaur Forge: <http://www.centaurforge.com/>

Pieh Tools: <http://www.piehtoolco.com/>

See Ted Stout.

## **Steel**

McMaster-Carr: For O-1 tool steel, often the best price around. I know a couple of professional toolmakers who buy all their O-1 from McMaster. [www.mcmaster.com](http://www.mcmaster.com)

Speedy Metals: Big selection, good delivery, prices are okay (will often beat McMaster on other than tool steel) <http://www.speedymetals.com/>

Enco: Get on their e-mail list for (fairly frequent) free shipping deals. The "Made in USA" drill rod has always seemed good, and shipped free it's a serious bargain. [www.use-enco.com](http://www.use-enco.com)

## **Coal**

Dan Michael – Lives in Crawfordsville, but travels a lot for work. He has good coal available at a fair price in bags. Often at Rocky Forge meetings. Ted Stout can get you his contact info.

## **Videos**

There are several videos on blacksmithing available on The Woodwright Shop website for free viewing. Roy is actually a pretty good blacksmith, but plays dumb and asks beginner questions so that Peter Ross, etc. can answer his queries. Peter Ross has several videos out for sale; go to the Popular Woodworking website and click on the "videos" or "store" tabs. Peter has a personal website, but, unfortunately, has never really posted any content. YouTube has tons of blacksmithing videos, some very good, some really awful. Caveat emptor.