

THE NEWSLETTER

OF THE BLACKSMITHS' GUILD OF THE POTOMAC, INC.

APRIL 1984
VOL. VI NO. 1

VOL. 2
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1984

THE GUILD'S OFFICERS AND DIRECTORS, 1984

President	Chris Worsley
Vice President	Brad Silberberg
Secretary	Jim Frazier
Treasurer	Fay Le Compte III

In addition to the four officers shown, the following are members of the Guild's Board of Directors:

Charlie Abel	Don Hawley
Ken Brundage	Karl Saalbach
	Tom Soles

The following members will serve as chairmen of the Guild's permanent committees:

BLACKSMITHING DAYS	- Chris Worsley
BUILDING	- Brad Silberberg
DONATIONS	- Fay Le Compte III
EDUCATION	- Jim Frazier
ELECTIONS	- Don Hawley
HALLMARK	- Karl Saalbach
LIBRARY	- Ken Brundage
MEMBERSHIP	- Tom Soles
PROGRAM	- Brad Silberberg
SAFETY	- Tom Copas
WAYS & MEANS	- Brad Silberberg

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BLACKSMITHING DAYS 1984

This year's event will be held on Sat. & Sun., June 9 & 10 at Bull Run Regional Park in Centerville, Va. As well as two days of demonstrating the craft of blacksmithing, we will once again plan for two daily auctions of ironwork done by Guild members. It is not too early to begin working on an item or two for the auction. Following the events of Saturday, the Guild will host a roast pig supper for members and guests. Fay LeCompte III and his internationally known team of anvil blowers will be in attendance. Volunteers will again be needed to help in several aspects of putting on this two day forging event. I will be preparing a list of things to volunteer for, and will be revealing this list at upcoming meetings.

Chris Worsley

COMING EVENTS THROUGH JUNE

Apr. 6 - Swap Night.

Apr. 20 - Making a tomahawk - Steven Wheeler.

May 4 - Match-plate, mold-board and core casting in sand - Charles T. Reyner.

May 18 - Making roses - Chris Worsley.

June 1 - Making book ends - Bill Weida.

June 15 - Making roasting forks - Dan Boone.

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BEGINNING BLACKSMITHING CLASSES

Brad Silberberg is ready to conduct another six-session course for beginners as soon as six candidates have signed up. The four classes, scheduled on Saturdays, will cover basics with emphasis on making finished objects. The total cost per student is \$125. Brad's phone number is (301) 468-1362.

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SEMINAR-DEMONSTRATIONS

Three Sunday seminar-demonstrations drew a total of 52 Guild members to the Gulf Branch forge during January and February.

Jim Flemming demonstrated tool making on Jan. 8 and the fashioning of animal heads and other small items on Jan. 29. Bill Moran demonstrated knife-making on Feb. 19.

Nol Putnam launched the spring calendar of special events with a demonstration of projects for beginners following the First-Friday-of-the-month Guild meeting March 2.

BRIDE OF THE BLACKSMITH

When I married Brad he was a woodworker. I used to complain about the piles of dust that clung to his hair, his mustache, his clothes, and eventually my furniture and woodworking is a relatively clean craft. This I learned when Brad traded sawdust for coal dust, and became a professional blacksmith.

I was thrust into a new world of endless dissertations on upsetting, fullering, heat treating forge welding, and the properties of E-Z Weld.

I soon became an expert on dirty clothes--and perfect strangers at blacksmithing demonstrations would take one look at Brad and ask me for advice about laundry detergents. As the wife of a blacksmith, I have learned to live with dirt, and I have learned the hard way that when one is dressed in nursing-whites, one does not touch anything in a blacksmith shop.

Second only to the grease, grime, and coal dust of blacksmithing, my favorite thing is the noise. There was a time when I thought that the 4:15 freight train (which runs directly behind the house) was loud, but then Brad bought a power hammer and I learned the true meaning of the word "loud." Blacksmiths like loud. At social functions and celebrations they love to blow the anvil--the louder the better!

My life has changed a great deal since Brad became a blacksmith. I am now the only one I know who has 2 two-ton coal box in their back yard. I am married to the only kid on the block who'd be thrilled to get coal for Christmas.

I have learned to be very cool and collected--how to look nonchalant when Brad whips out the cutting torch and starts cutting steel on a Baltimore street or examines the iron work on a stranger's front porch on a street in London.

Being married to a blacksmith does have its advantages. I do get the occasional potrack and candlestick, and Brad did re-forge my car after I starred in an episode of "Daisy Duke does the Demolition Derby." I also managed to get a free trip to London out of the deal.

Despite the late nights after guild meetings, the trips to Pennsylvania for tools, and the many nights we eat dinner at 11 PM because he has worked late, I wouldn't trade him for anything; not even a clean, quiet, and debonair CPA.
-- Sharon Silberberg.

GUILD RAFFLES

One of the Guild's many ways to raise money is the meeting night "RAFFLE." Tickets are generally 25¢ each and the prizes normally are worth 20 to 50 times that amount. On special occasions the tickets may be 50¢ each or more depending on the prize and the donor's request. Come to the meetings and see what you can win. Help support your Blacksmith's Guild.

The winners for Nov. 4, Nov. 18, 1983, and Jan. 6, 1984, in that order were Ann Franklin (won a bag of coal that netted the Guild \$13.25); an unidentified member (a bag of coke, \$8.25); and Dan Boone (a wooden hammer, \$7.00.) -- Fay LeCompte III

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ABANA LIBRARY

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Susan Showalter, Director, ABANA Library, RR#2, Box 102A, Nashville, Indiana 47448 (812) 968-7830.

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SOURCES OF SUPPLY

Individual company addresses will not be repeated after the first listing:

ABRASIVES -- Thompson & Cooke, 4200 Kenilworth Ave., Bladensburg, MD, 21237, (301) 864-6380; Manhattan Supply Co., 151 Sunnyside Blvd, Long Island, NY 11803, (800) 645-7084. Catalog available. VISA, Mastercard. Phone orders accepted. Minimum order \$20.

BEARINGS, BELTS & PULLEYS (including variable speed pulleys) -- American Industrial Resources, (1) 10 Taft Ct., Rockville, MD, 20850, (301) 414-1520; (2) 2511 Schuster Dr., Cheverly, MD, 20781, (301) 772-3900, and (3) 1406 Lislle Ave., Alexandria, VA, 22314, (703) 548-4935.

COAL and COKE -- Fay Le Compte III, Maple Ave. and Beulah Rd, Vienna, VA, (703) 938-6566.

SAVING WELDING GAS

NEW MEMBERS

On some blacksmithing projects, it is often more convenient to use an oxy-acetylene torch as a heat source. I use the torch for hot riveting, aiding twisting, spot heating, as well as welding and brazing. When using a torch on an intermittent basis, the torch must either be left to burn, (often unattended) or shut off. Leaving the torch burning is extremely dangerous. Turning off the torch and relighting it for each use is time consuming. Both methods WASTE GAS!

I have found an appliance for my torch that saves both fuel and time. The device is a small bronze casting with a pair of needle valves, a pilot light, gas-in and gas-out fittings. The needle valves shut off the oxygen and acetylene to the torch handle when the torch is hung on a hook-ended lever. The pilot light burns acetylene and atmospheric air and adjusts much like a cigarette lighter. The gas saver can be mounted on any horizontal surface. (I have mine on my cylinder truck.) Twin lead hoses connect the gas saver to the regulators and the torch body.

To use the device, the tanks are first turned on. The working pressures are set, the torch lit and the flame adjusted. The torch valves are left on and the torch hung on the hook. This shuts off the needle valves and the flame goes out. The pilot light is then lit with a spark-lighter, and adjusted. To use the torch, it is lifted off the hook and lit on the pilot light. To turn it off it is simply returned to the hanging position. The torch valves should not need to be touched until the torch is shut down for the day.

The gas saver I have is a "Weldit" Gas Saver Model W-101, made by the National Torch Tip Co., and is U.L. listed. I purchased mine through Air Products for about \$70. I'm sure that other similar products exist and your local welding supplier can order one.

I can't say for certain how much gas this device has saved for me, but the time savings have been tremendous. No longer do I have to leave a cutting torch roaring on the shop floor while I set a rivet or set up the next one.
--Brad Silberberg

The Guild welcomes 12 members who have joined since Sept. 1983.

Ableiter, Duane
9206 Custer Terrace
Adelphia, MD 20783

Barlow, Owen J.
1631 N. Randolph St.
Arlington, VA 22207

Early, Jim
Room A129, Bldg 223
Nat'l Bur. of Standards
Gaithersburg, MD 20760

Flaherty, Francis X.
5446 Vine Street
Alexandria, VA 22310

Franklin, Stanley M.
1756 Brookside Lane
Vienna, VA 22180

Idé, David
246 Lawyers Rd
Vienna, VA 22180

Lumpkins, Winston
3 Colonial Ct.
Rockville, MD 20852

Pena, Manuel
255 Red Clay Rd. #303
Laurel, MD 20707

Roberts, D. Robert
8308 Wythe Lane
Springfield, VA 22152

Spencer, Gary L.
2813 Urbana Dr.
Silver Spring, MD 20906

Weida, William G.
6311 Mori Street
McLean, VA 22101

Wright, David
10807 Hilltop Drive
Ft Washington, MD 20744

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Iron Age Antiques, Central Ave., Ocean View, Del., 19970, (302) 539-5344.
Tools for user, collector, tinsmiths, blacksmiths, woodworkers, coppersmiths, etc. Books, primitives and furniture.

Francis X. Flaherty
5446 Vine Street
Alexandria, VA 22310
(703) 461-1111

BRIDE OF THE BLACKSMITH

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COAL and COKE -- Fay Le Compte III, Maple Ave. and Beulah Rd, Vienna, VA, (703) 938-6566.

COPPER, BRASS & ALUMINUM -- C&S Metals Service, Washington Blvd. and Dorsey Rd., Jessup, MD, (301) 796-5661. (You must place your order in advance by phone before going to pick up metal.)

CRUCIBLES -- Foundry Service & Supply Co., 7 Greenwood Place, Baltimore, MD, 21208, (301) 486-6239.

FASTENERS -- Posner Industries, 8641 Edgeworth Drive, Capitol Heights, MD, 20743, (301) 350-1000; Thompson & Cooke.

FIREBRICK and REFRACTORIES, including MONO P-55 -- American Combustion, 3413 Windom Rd., Brentwood, MD 20722, (301) 779-3400, and Foundry Service & Supply Co.

HAMMERS, HOT PUNCHES, CHISELS, etc., -- Gichner, 2101 New York Ave., NE, Washington, DC, 20002, (202) 529-2211.

INDUSTRIAL SUPPLIES -- Thompson & Cooke.

MOLDING (casting) SAND -- Foundry Service & Supply Co.

RIVETS -- ABCD Industries, 1320 Light St., Baltimore, Md, (301) 217-4111. (The firm sells nothing else.) 7&7

SCRAP (including steel, aluminum and stainless) -- Montgomery Scrap, 15000 Southlawn Lane, Rockville, MD, 20850, (301) 424-3000. The firm will not respond to specific telephone inquiries; the only way to learn whether they have what you want is to go look.

SPRINGS, Custom Made, (no minimum order) -- Kirk Habicht Co., 8950 Yellow Brick Road, Baltimore, MD, 21237, (301) 686-9100.

SPRINGS, AUTO, LEAF AND COIL, used -- UPAR, Inc., 8135 Old Dominion Dr., McLean, VA, 22102, (703) 983-9031. Will not respond to specific telephone inquiries; you must go look.

STEEL, BARS, SHAPES, PLATE & SHEET -- Standard Supplies, 14 Chestnut St., Gaithersburg, MD, 20760, (301) 948-2690; J. B. Kendall, 2160 Queens Chapel Rd., NE, Washington, DC, 20011, (202) 526-2000; Potomac Steel and Supply Co., 7801 Loisdale Rd., Springfield, VA, 22180, (703) 550-7300; Durrett-Sheppard Steel, 6800 East Baltimore St., Baltimore, MD, 21224, (800) 492-4911. They specialize in unusual or hard-to-find stock or shapes. Ask for Steve Tool.

STEEL, TOOL -- Kahl-Holt Co., 8765 Mylander Lane, Towson, MD, 21204, (301) 296-1100; Fay Le Compte, large blocks; Manhattan Supply Co., square, strap and stock in 18- and 36-inch lengths; oil, air- and water-hardening varieties. (See also SPRINGS, AUTO, above)

MISC. TOOLS, SUPPLIES & EQUIPMENT -- Bowie & Tool Equipment Co., 10711C Baltimore Blvd., Beltsville, MD, 20705, (301) 937-4406; Gichner; Posner Industries; Thompson & Cooke; and Potomac Steel & Supply Co.

(The above sources gathered by Brad Silberberg.)

ROBERTS OXYGEN, Merrifield, VA. Blacksmithing & farrier tools, anvils, Cherry Heat Welding Compound, brazing rods, tongs, grinders, welders, etc.

BARTER POST, P.O. Box 17, Gainsville, PA, 22065, (703) 754-7321 (Proprietor: Emery B. Wood). Has good tools, sometimes, usually post vices, anvils, hammers & tongs -- very reasonable.

LAWS ANTIQUE CENTER, Rt. 28, Centerville, VA. Sunday Flea Market -- usually every other Sunday. Average tools -- good prices -- also large complex of antique shops with some tools.

CHASE, Limited, 1 Washington St., Middleburg, VA, (703) 687-6973 (Proprietor: Jol Arwine). Good tools.

FIRE POTS FOR SALES

These are being offered through mail order from K. Scharabok, Box 33399, Dayton, OH 45433 for \$200 (freight paid). Replacement elbows and shakers are also available. Descriptive brochure available if a business-size stamped envelope is provided.

BILL MORAN, JR., ON KNIFEMAKING

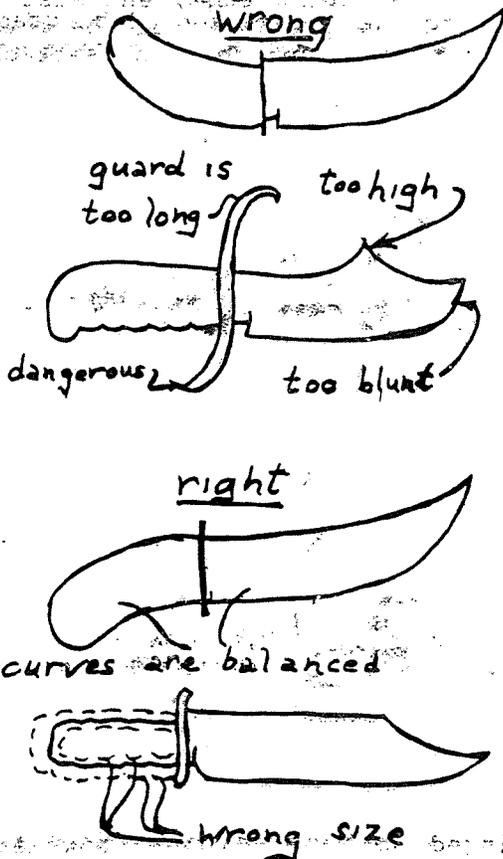
FROM NOTES AND SKETCHES BY H.K. Saalbach, Adrian Clary and Gary Spencer.

The Sept. 1983 Newsletter contained an article with an identical title based on Bill Moran's presentation at the joint meeting of the Appalachian Blacksmiths Association and the Blacksmiths' Guild of the Potomac in Shepherdstown, W. Va. on 9 Oct. 1983. On 19 Feb. 1984, Bill Moran demonstrated in our own shop at Gulf Branch Nature Center in Arlington, Va. What follows is an interpretation, with additions, of Bill Moran's presentation:

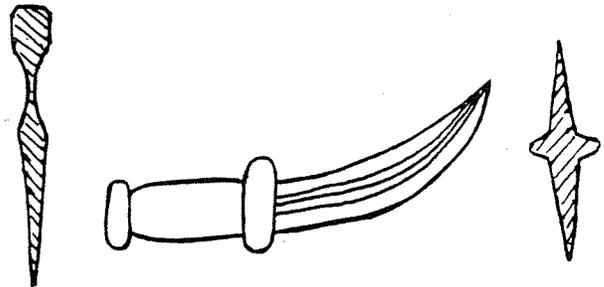
Design of Knife Blade

Any traditional design is based on thousands of years of experience and is therefore to be recommended. A "Star Wars" design is weird and will likely be unsatisfactory.

The handle, blade and guard should complement each other in style and size. Modifications from the traditional should be moderate, avoiding extremes of exaggerated features. The Bowie knife is The United States National Knife, and is an excellent model for a knifemaker. Examples of good and bad design are:



The balance of a knife is important. A hunting knife should balance immediately behind the guard, while a Bowie knife should balance 3/4 to 1 inch in front of the guard. Thus, a hunting knife will not tilt out of an open fist, and a Bowie knife is adapted for chopping or skinning. Balance is achieved by adjustment of handle and blade size and weight, by tapering the blade and/or tang, by adding a pommel, and, in some cases, by grooving the blade, as shown in the cross section. Grooving or fullering the blade will lighten it. The Djambieh (Jambiya) or Khanjar fighting knife shown here combines high stiffness with light weight by, in effect, having four deep angular grooves running along the entire length of the blade.



Stock Material for Blade

Bill recommends, if one reuses old steel, Chrysler torsion bars, carpenter's saw blades, most bull points and most auto leaf springs, but not items of "non-tempering" steel. The latter is fine for hot work or impact, but does not have enough carbon content to hold a keen edge. Drive shafts are not recommended. Their composition varies. With any used steel, it is advisable to make a rough trial, to see whether the steel hardens and tempers well and holds a keen edge and does not readily chip, before putting great effort into a blade. A rough trial blade can be destroyed without great loss but with gain in knowledge.

It is best, however, to use new steel. Bill Moran recommends type 1040 steel (0.40% carbon) for really tough knife blades which resist chipping of the edge; type 1095 (0.95% carbon) or W-2 (like 1095, but which 0.25 vanadium added) for the keenest longest lasting edge; and type 1060 as a compromise. Bill has begun to experiment with type 5160 (like 1060, but with 0.80 chromium added) and thinks it will prove to be excellent.

Forging the Blade

When the forging is done, the blade should be as close to the finished size and shape as possible, so as to reduce the amount of steel which will have to be ground away and so that the grain of the metal follows the surface contour.

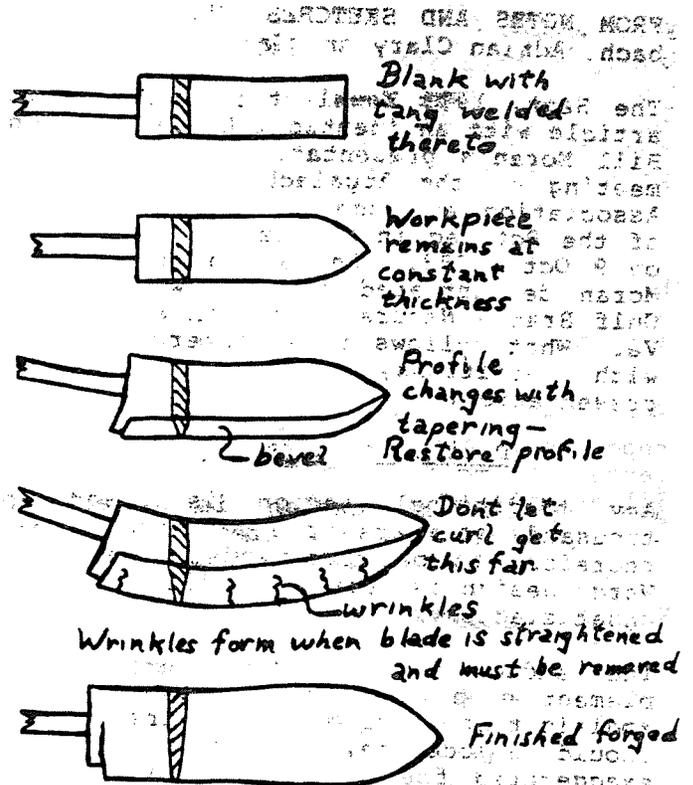
From this it follows that, starting with a rectangular bar, its width and length should be smaller and its thickness greater than those of the finished blade. As the blade blank is tapered, both lengthwise and crosswise, it will lengthen and spread out in width. In volume (and in weight) the blank, compared to the finished blade, should be perhaps 20% larger to allow for grinding loss plus perhaps another 20% to allow for loss of iron by scale formation. These factors, if kept in mind, will assist in choosing the correct size of workpiece.

The use of tongs while forging a short blade is inconvenient, and it is best to extend the workpiece by welding on a long tang or by using an initially long workpiece. For arc welding, stainless steel rod is ideal, since it makes a strong connection and does not draw carbon out of blade, thereby avoiding a local weakening of the blade at the weld.

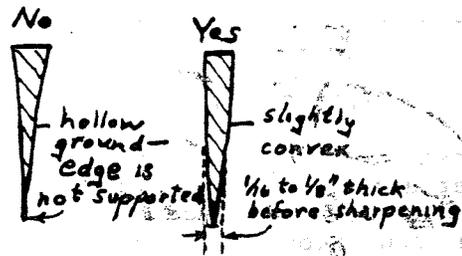
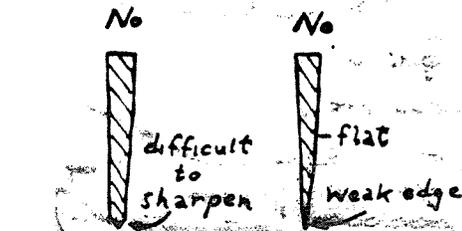
The initial rectangular blank should first be shaped in profile to resemble the desired profile of the finished blade, but shrunk in the lengthwise direction.

The workpiece, still of constant thickness, is then tapered in thickness along its length, by drawing out over the anvil horn. This may change the profile, which must be maintained by correcting any departure from the desired final profile as soon as the departure is noticed.

Finally the thickness of the blade is tapered, thereby widening the blade and also curling the blade profile away from the cutting edge. The curl must be straightened out as one proceeds, and this is best done with the aid of the vice, in which part of the blade is clamped while the projecting portion is hit on the back edge of the blade to remove the curl. The sharp edge of the blade will buckle when this is done, but the buckle can be flattened in the vice and on the anvil. Bill Moran says that keeping the blade flat during the final finishing stages is a large part of the job. The operations for a symmetrical spear-point blade are shown:



The taper of the blade, from the back edge to the cutting edge, and also from the hilt to the point, should be gradual and convex, as shown in cross section:



(Continued in Next Issue of Newsletter)

SHOP TIP - #1

Use worn concrete saw blades, discarded by contractors, to dress grinding wheels. Snap off teeth that retain some of the diamond-bearing matrix with a hammer and vise, and hold the fragments to the grinding wheel with vise-grip pliers. --Brad Silberberg

SHOP TIP #2

Heavy chain, draped over the work on the anvil or over work supported by a stand and the anvil, can serve as an effective hold-down. (Ed's note: Another variation of the chain hold-down, credited to Francis Whitaker, was reported in the Sept. 1983 issue of this letter by C. G. Sakowski.) --Brad Silberberg

SHOP TIP #3

Keep an assortment of short pieces of different shapes of steel stock to be used in such jobs as sizing tong bits and jaws, and as gauge blocks when forging one shape into another. For example, a short piece of 1/4" x 3/4" bar lying on the anvil will serve as a comparison in forging a 1/2" square into a rectangle of similar dimensions. --Brad Silberberg

SHOP TIP #4

Inexpensive framing squares, cut to different lengths, (6" x 12", 12" x 18", 18" x 24"), are effective in measuring hot work on the anvil. The square can be hooked over the hot end of the bar to determine how far the bar must extend beyond the anvil's edge for a shoulder or bend. --Brad Silberberg

SHOP TIP #5

Good files will be ruined quickly if they are used on hot metal to remove burrs and file out cracks. Old, worn files are almost as effective for working the hot, softened metal during forging. --Brad Silberberg

SHOP TIP #6

Fire bricks (but not ordinary building bricks) arranged around the forge firepot will give you flexibility in suiting the size and depth of your fire to changing needs. They will be especially helpful in giving you a deep fire for welding or a smaller, more efficient one for small work. --Brad Silberberg.

SHOP TIP #7

Forge or twist the blade 45 degrees to the handle for a hot chisel that will be used for long splits or scored lines. This will keep your hand out of your line of vision and away from the heat of the stock. Two such tools --one with the blade offset to the right and the other to the left -- will equip you for working alone or with a striker. --Steven Wheeler

SHOP TIP #8

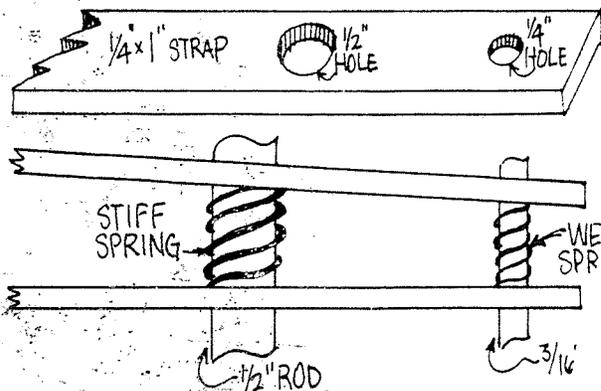
A 3 1/2- or 4-foot length of 1/2-inch round, hot rolled steel, a pair of 1/2 x 1 x 8-inch pieces of h.r. strap, two compression springs and a supporting base will make up an adjustable-height "third hand" stand for the forge or anvil. The rod needs no preparation except removal of possible burrs at the ends.

The two pieces of strap will be drilled with matching 1/2- and 1/4-inch holes to form the "hand." The quarter inch holes are centered about 3/8 of an inch from one end and the half-inch hole about two inches from the same end. A 3/8-inch round file should be used to slightly enlarge the larger hole toward the ends of the strap. Careful work with frequent tests will ensure that the holes are not filed out too much.

The straps are assembled with a 3/16" bolt through the smaller holes with a light compression spring around the bolt, sandwiched between the two pieces. This spring should be light enough to compress between the thumb and forefinger.

A stiff compression spring that fits loosely over the half-inch rod and between the straps will complete the assembly.

Pieces of quarter-inch rod or other scrap can be gas-welded to the upper arm of the "hand" to keep stock from rolling off. --Charles T. Reyner

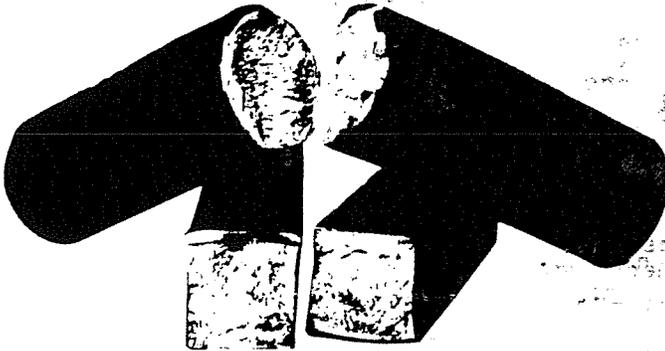


How to distinguish wrought iron (which is getting to be quite rare) from steel, using simple tests:

First, cut half-way through the bar, either with a hacksaw or a sharp chisel. Then bend sharply at the cut. The nature of the break, as shown in the two photos, indicates the kind of iron or steel.



Wrought iron bars fractured to show the fibrous, hickory-like structure which is characteristic of the material.



Fractured steel bars exhibiting crystalline or granular fractures which are readily distinguishable and in marked contrast to the fibrous fracture of wrought iron illustrated.

Photos from
Wrought Iron
by Aston & Story
A. M. Byers Co.
1936

H. K. S.
Feb. 1984

