

Tools You Can Make – Saws

by Ike Bay

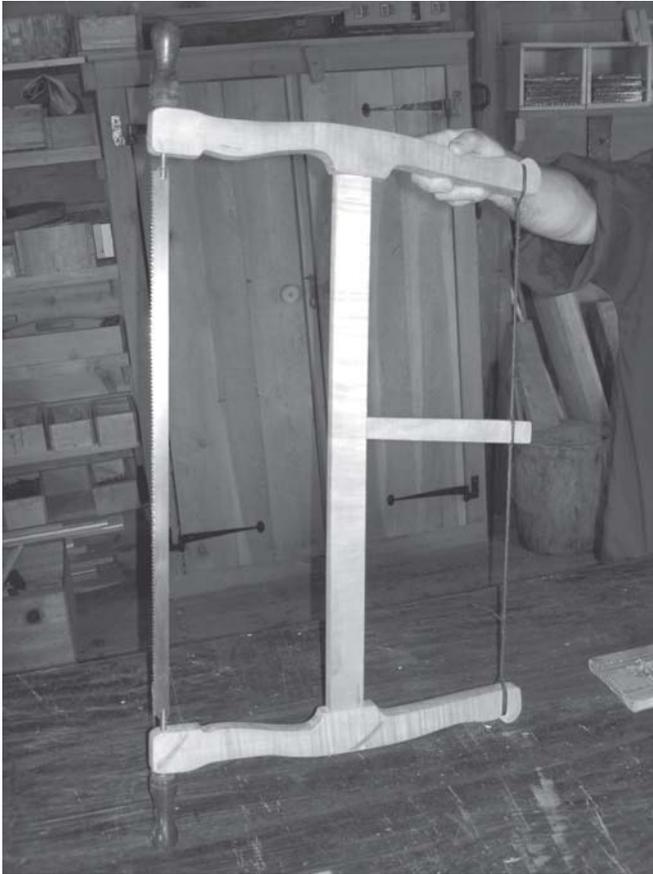


Photo 1 – Bowsaw – in the carpenter shop at Ft. Vancouver National Historic Site

In his “Traditional Gun Stocking” CDs, Mark Silver slabs out a gun stock with a carpenter’s rip saw, and does it very effectively. Most of us find that making such a saw is well beyond our skills and tooling. To cut the profile of a stock blank, something that operates more like a band saw may be preferable. There are however, several saw options that do not require an electric motor, are period correct, and can be set up as either rip or cross-cut saws.

The first that we should consider is the bow saw. It utilizes a simple hardwood frame with a tensioning device on one side of the stretcher bar and the blade on the other. Much like a coping saw on steroids, the end units that hold the blade are able to turn and twist at the operator’s pleasure. If the stock you are trying to saw is heavy enough the saw may not do as you wish. To use it in a rip saw mode the blade is set 90° to the frame.

Bow saws can be made up in increased sizes, but most are kept modest in size and would be of limited use in stock work. Tage Frid wrote, in *Fine Woodworking* (Fall 1977) “Sawing by Hand, Bowsaw is Best; Keep it sharp,” is a lengthy and detailed account about his preference for the tool in fine wood-working and gave the specs to make one with a blade in the 18" range. The same magazine published J. Crate Larkin’s “Build a Bowsaw” article in the Sept/Oct 2001 issue. Larkin suggests a smaller unit with a 12" blade. A bowsaw web search will turn up the “Gramercy Tools Bowsaw” site with plans, instructions, and parts availability among other hits.

A better choice may be a frame saw. A two sided wood hard frame supports a blade that is tensioned via the attachment bolts with a wing nut. The other end is held static with a simple square nut that is not part of the adjustment process. As with bowsaws, frame saws can be made in a variety of sizes. The largest being head rigs on up/down saw mills. Photo 2 shows the bolt assembly from a frame saw in a shop in Colonial Williamsburg. Photo 3 shows a frame saw in use in the wheel wrights shop. The hard wood felloe being sawn out is clearly in the thickness range of a stock blank. The saw shop in my area will make up band saw blades to order and are not put out when I ask for sections



Photo 2 – Frame saw bolt exposed



Photo 3 – Frame saw in use

of a specific size/teeth per inch that are not joined. So you have the same blade options you would have in a modern band saw for both bow and frame saws. There are some types of miter saws that use a metal frame similar to a large hacksaw and these blades can be used in bow and frame saws as well. They tend to run in the 22" and 25" lengths. I have seen frame saws that are made both ways: sides mortised into the head/tail stocks and the head/tail stocks mortised into the sides. Look behind the wheel wright in the





Photo 4 – Simple blacksmith made wing nut

action picture and notice the larger frame saw on the wall. That style wing nut may be easier to make and function just as well. It is just a taper pulled on both ends that are curved to match each other and give the operator's hand a purchase on the wing nut. As the size of the threaded shaft

increases, also increase wing nut size proportionately by using a larger bar of metal.

While on the subject of saws, how can we over look the hacksaw? In the 1700 and 1800's hacksaws were often of the "Lancaster" pattern and made in a variety of sizes to accommodate the trades they would be used in. The photo shows one each of the larger and smaller. Often these saws can be found at antique tool sales and the prices are very reasonable. Modern hacksaw blades can be cut down to fit any saw simply by trimming the length and punching a new hole with a nail set and hardwood end grain. Touch up the end of the nail set to make a nice flat face with sharp corners. Punch from both sides using end grain hardwood as a support under the blade; and the "slug" should pop out. If you are reluctant, practice on an old worn out blade until you feel comfortable with the process. Modern yellow and white blades cut very well, but tend to look out of place on old style hacksaw frames. Removing the paint seems to reduce their offensive appearance without sacrificing func-

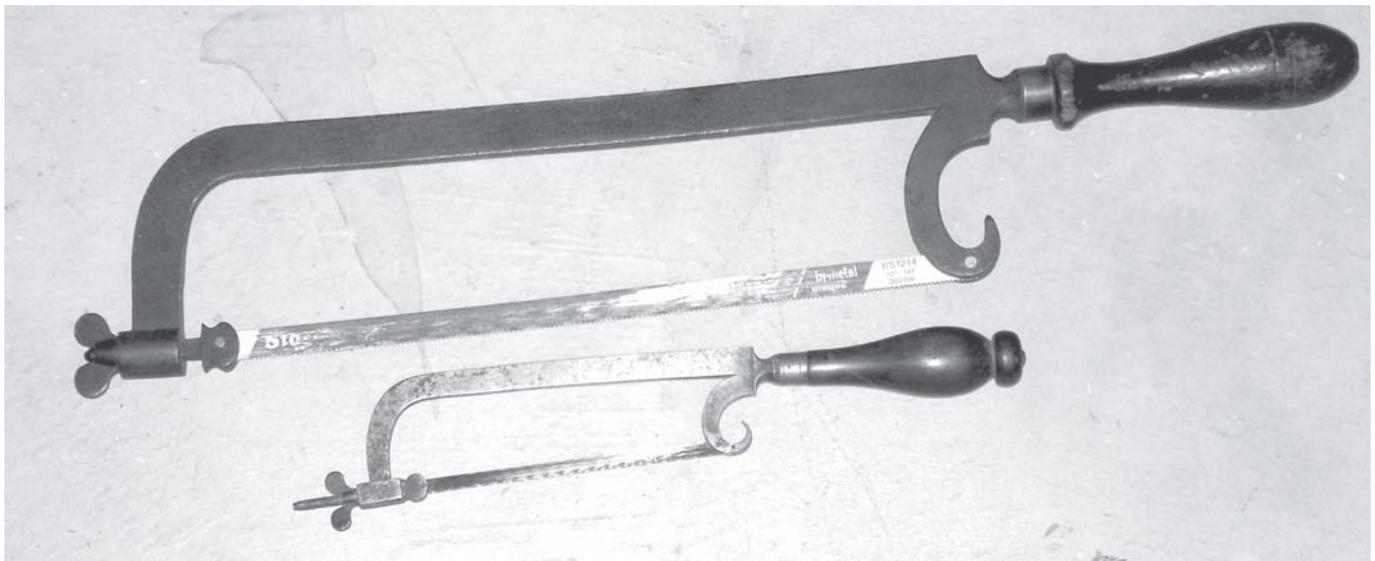


Photo 5 – Hacksaws large and small; the larger takes an unmodified 12" blade

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Photo 6 – Small hacksaw – this saw is small and sweet; it is fitted with a 5x 1/4" blade right off the tool store shelf.

tion. This is especially necessary if you are working in front of the public in a period setting. A Lancaster pattern hacksaw is a blacksmithing challenge and you need to start by thinking like a blacksmith. This is a serious statement, because the plastic nature of hot iron needs a different problem solving mind set than wood or cold metal. There is a full length tang; that runs the length of the handle and pulls the handle up against the necked down shoulder. The pre-shoulder area is the largest cross sectional mass and can be the indication of the parent stock needed. In your mind push and straighten the short leg until it is flush with the long leg and you can understand how a cutting action created it. A second option is to use smaller stock and bend it to form the shoulder area and provide the smaller leg. In this second method the cleft between the long and short legs is the joint of two halves of the fold over. The bend obviously has to be welded to allow the drawing out of the neck, shoulder and tang.

The tensioning screw is a tapered square with a large head that is filed fancy, slotted, and drilled to hold the blade with a pin. Rather than file and fit extensively, the blacksmith forges the taper and uses the forging as a drift to form the matching hole. The small end is then threaded to take a wing nut, also blacksmith made. Determine the size of blade you want the finished frame to take and work up your design from that starting point. Wood frame hacksaws of the bow saw style have also been used effectively. **MB**

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