

Making a Small Brass Hammer

P. Michael Henderson

October 30, 2008

Some tasks in a shop call for a small brass hammer - such as adjusting a wooden plane, tapping on a chisel, or just for making adjustments to joinery. While these hammers can be purchased, I decided to make my own.

For the head, I purchased some 7/8" brass round stock from Online Metals. A foot of the round stock is about \$21 and you can make a number of hammers from that one foot. You won't need that many hammers yourself so see if some of your friends will take some of the brass stock, or make some extra hammers as gifts for your woodworking friends.

A good size for a small hammer head is about 2.5". If the head is all brass, it will weigh about 7.25 oz. I also made a hammer with 2" of brass and 1/2" of wood on one end. That head would weigh a bit over 6 oz., depending upon the wood used.

You can cut the bar stock with your miter saw. Just cut slowly and clamp the rod well when making the cut. A carbide blade cuts brass very well and it doesn't damage the saw blade.

The picture below shows a hammer I made earlier, with one face of wood and the other of brass. Also shown in the picture are the components of the hammer I'm going to make in this tutorial. I'm using a 2.5" piece of brass stock and I'm going to dome one end while leaving the other end flat.

Making a Small Brass Hammer

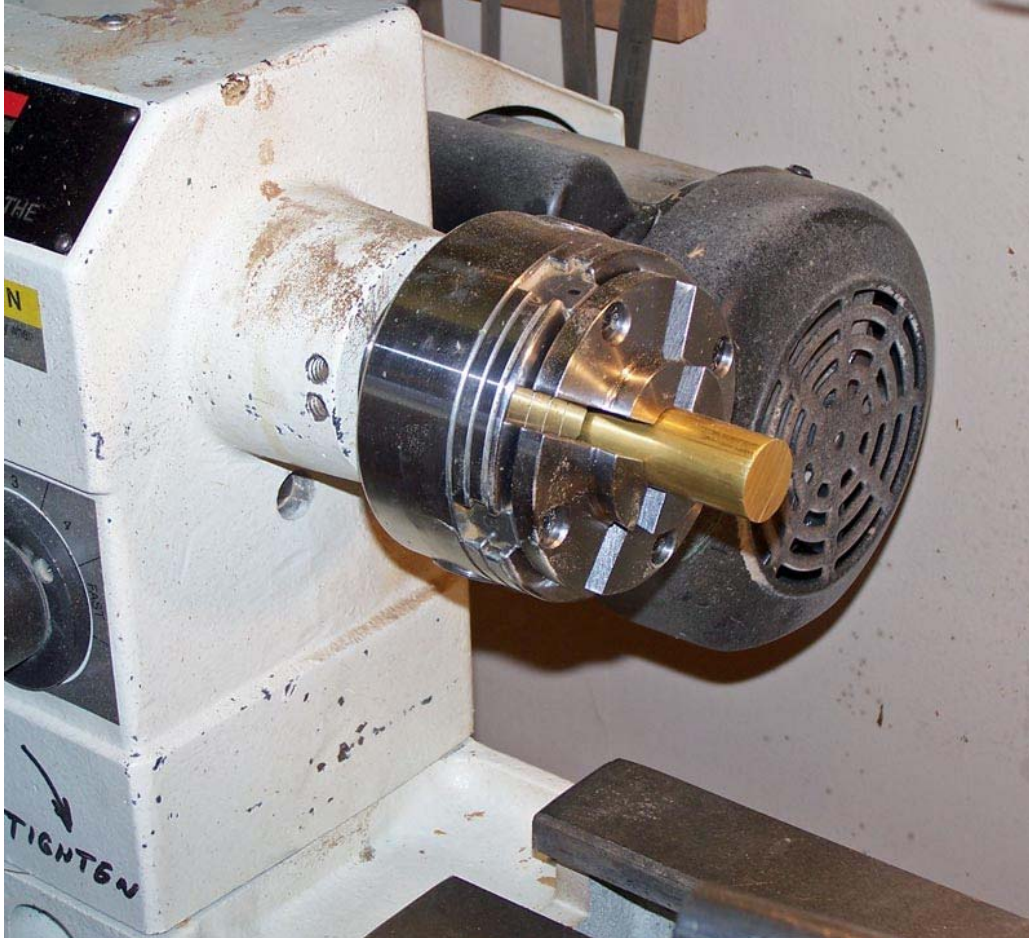
P. Michael Henderson - October 30, 2008



I'll begin by creating the dome on the brass stock. To do that, I mount the brass rod in my lathe using a chuck.

Making a Small Brass Hammer

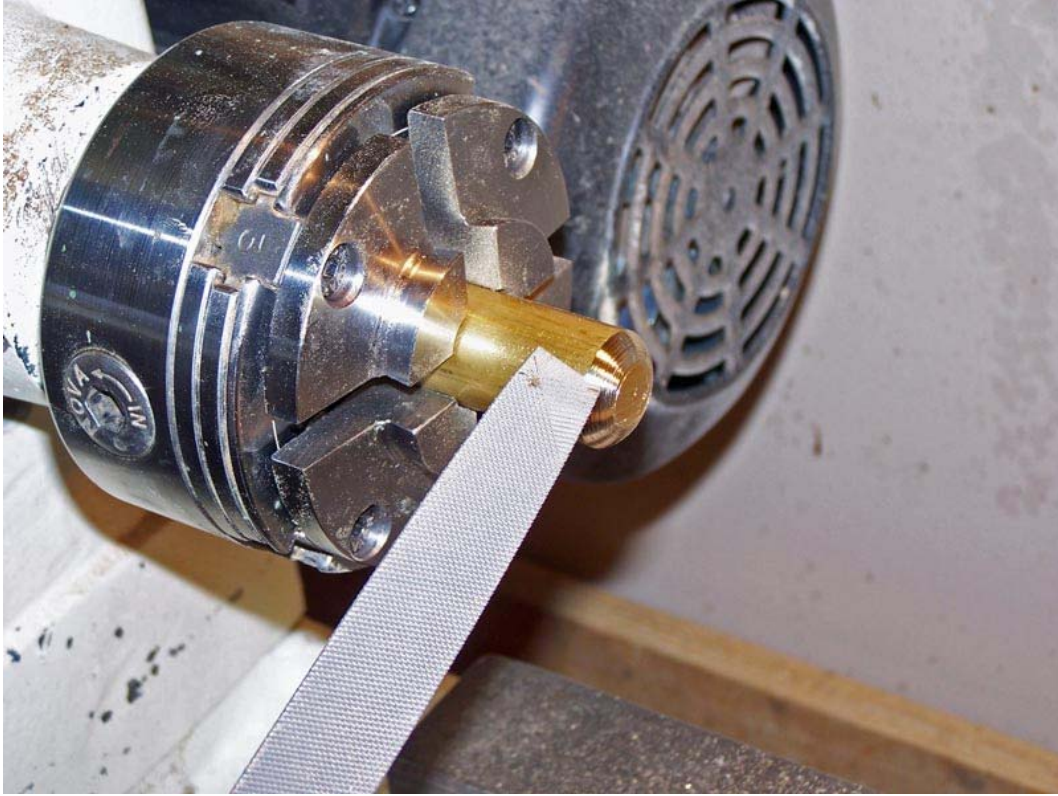
P. Michael Henderson - October 30, 2008



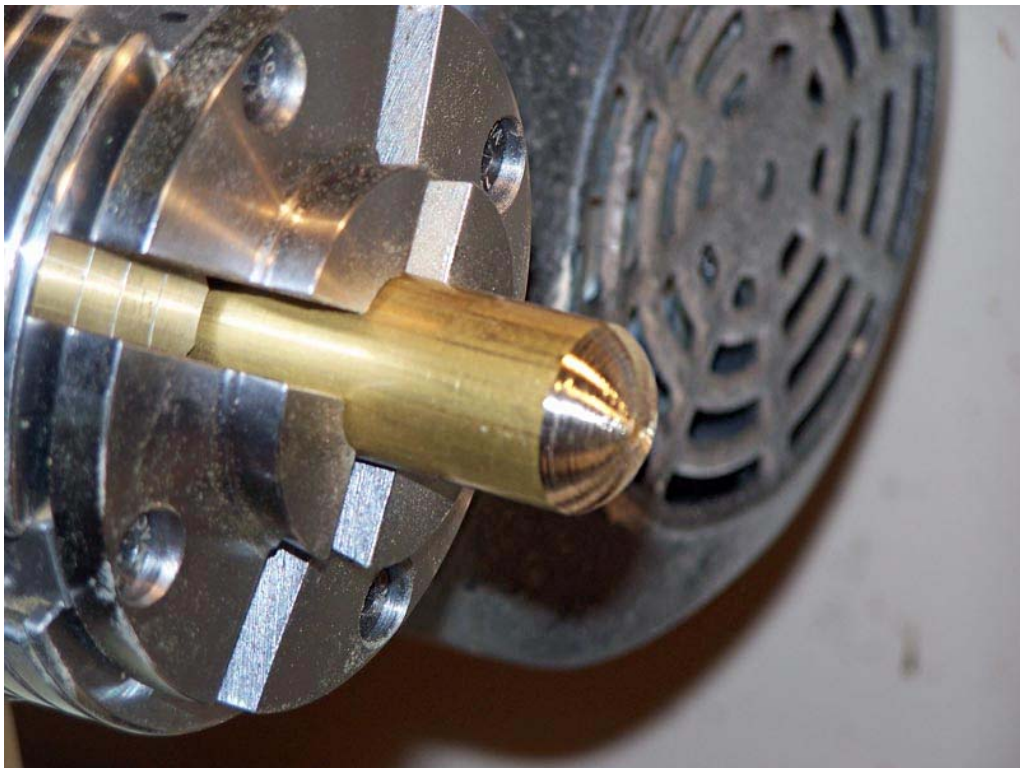
Then, using a double cut file, and with the lathe running, I begin to work the brass into a dome.

Making a Small Brass Hammer

P. Michael Henderson - October 30, 2008



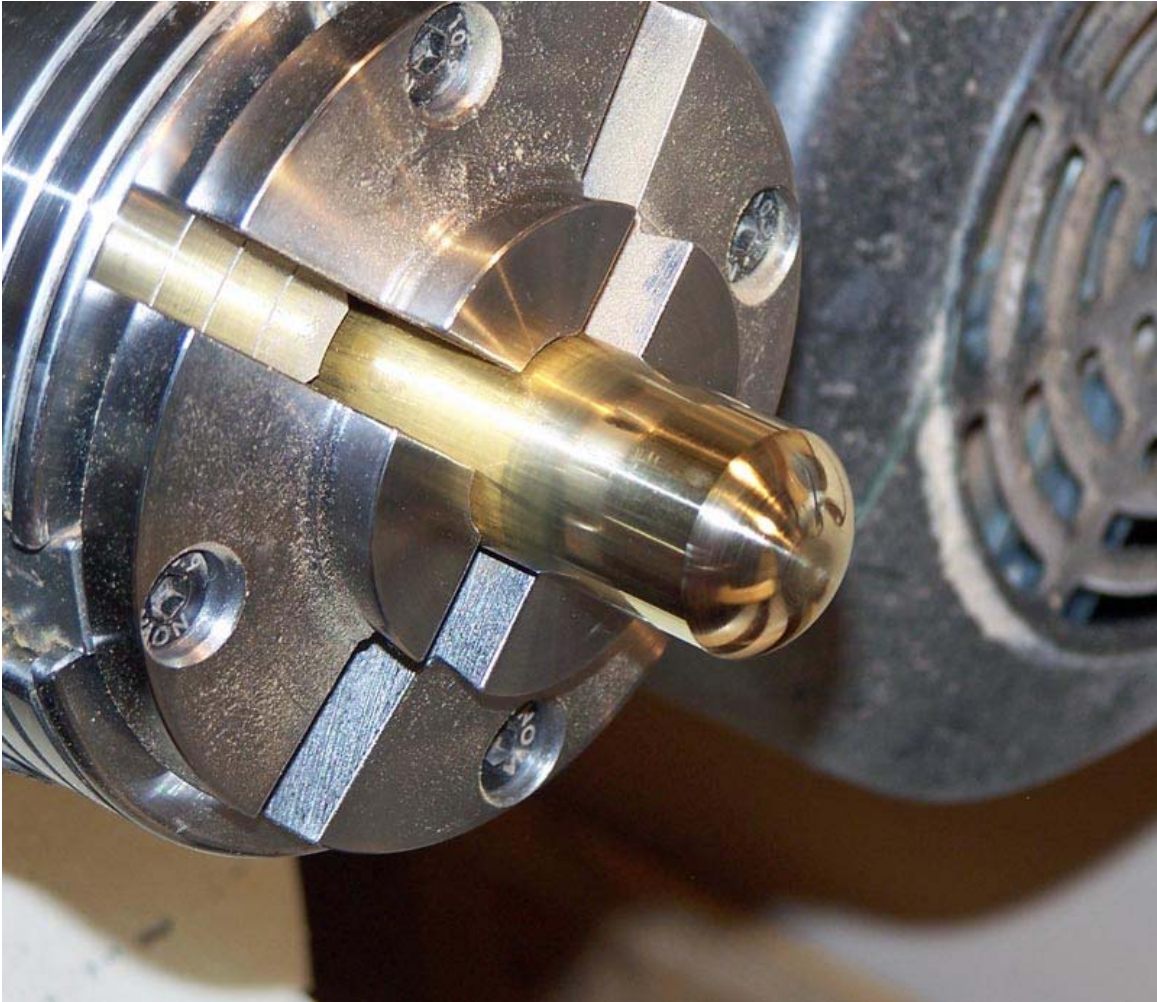
Eventually, I get the end of the rod to the shape I want.



Making a Small Brass Hammer

P. Michael Henderson - October 30, 2008

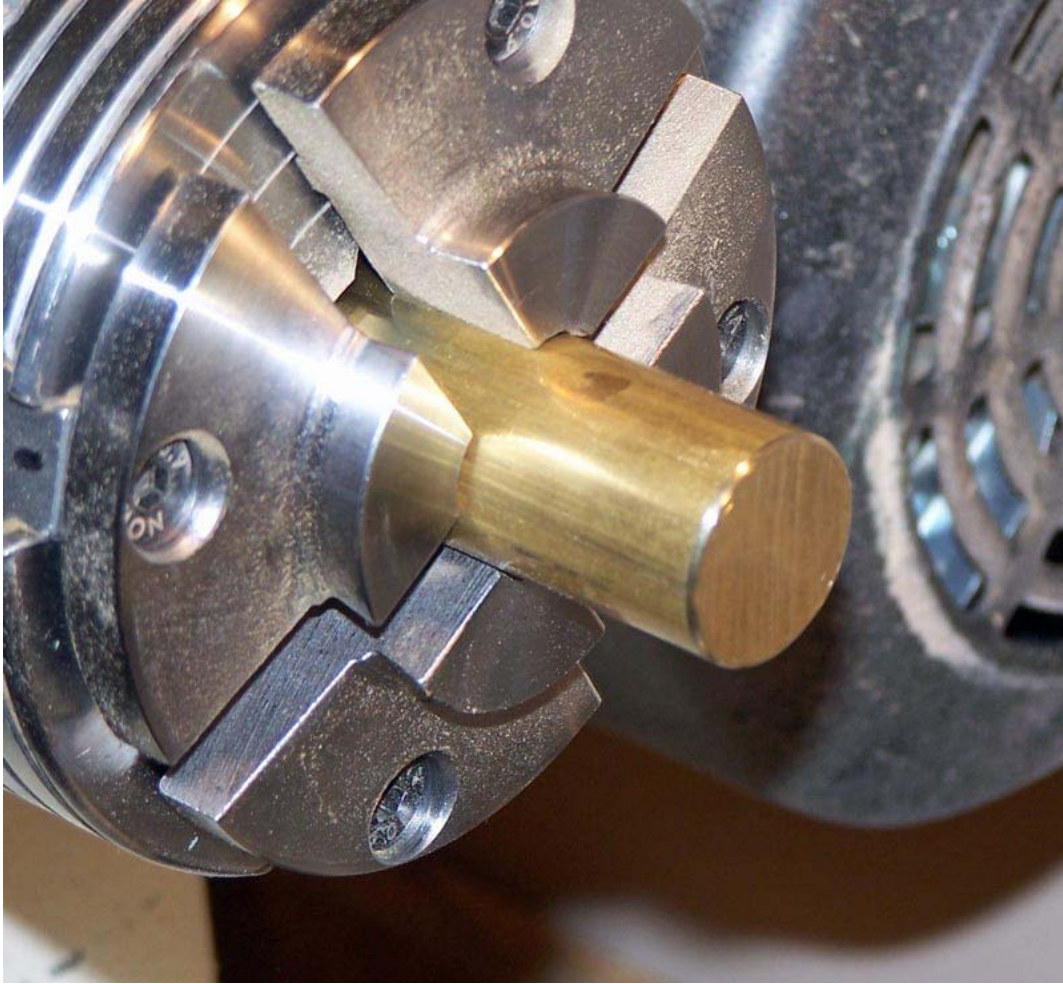
I used sandpaper, working to finer grits, and then polished the end with brass polish.



I turned the rod end-for-end in the chuck and took the sharp edge off the flat side.

Making a Small Brass Hammer

P. Michael Henderson - October 30, 2008



Then, just for decoration, I cut a couple of grooves on each end of the hammer head. I cut these with my V-shaped parting tool, held sideways.

Making a Small Brass Hammer

P. Michael Henderson - October 30, 2008



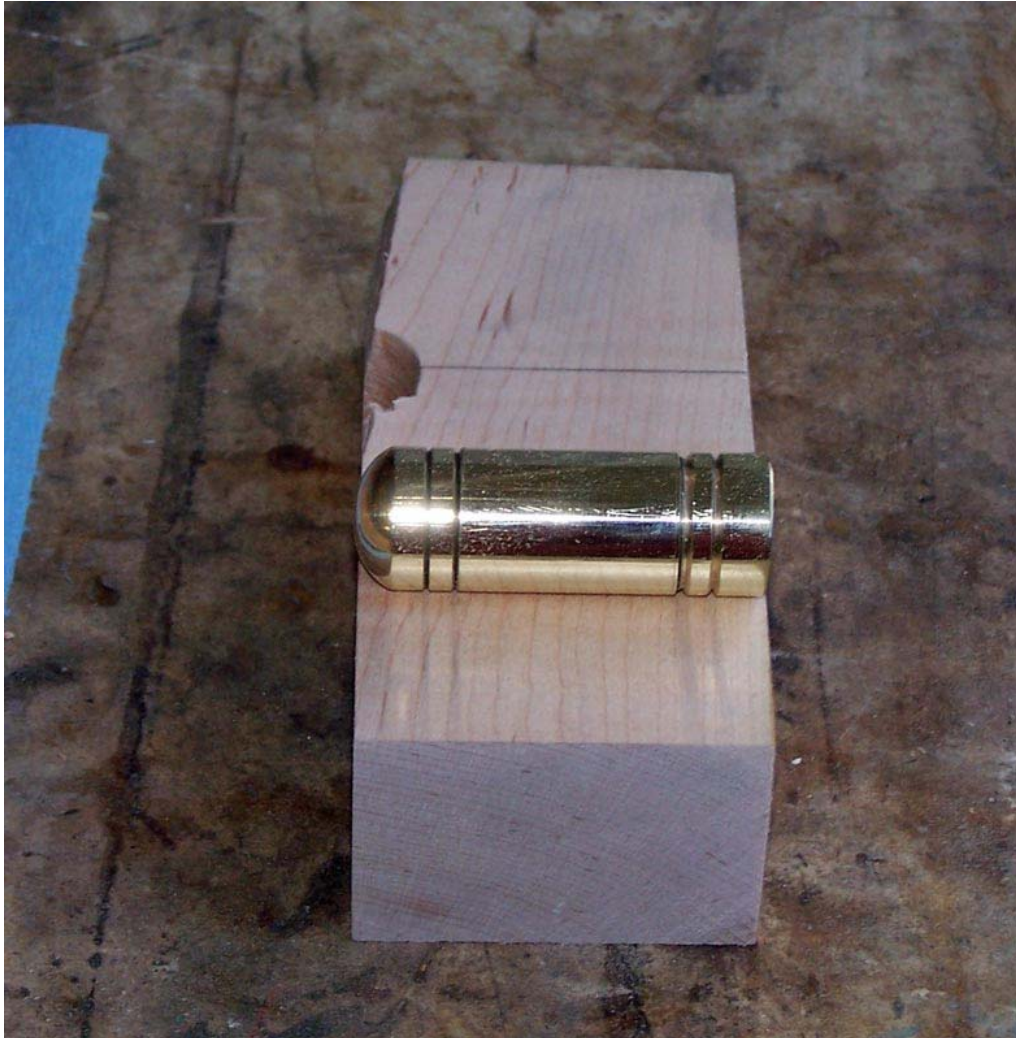
This is what it comes out looking like:



Making a Small Brass Hammer

P. Michael Henderson - October 30, 2008

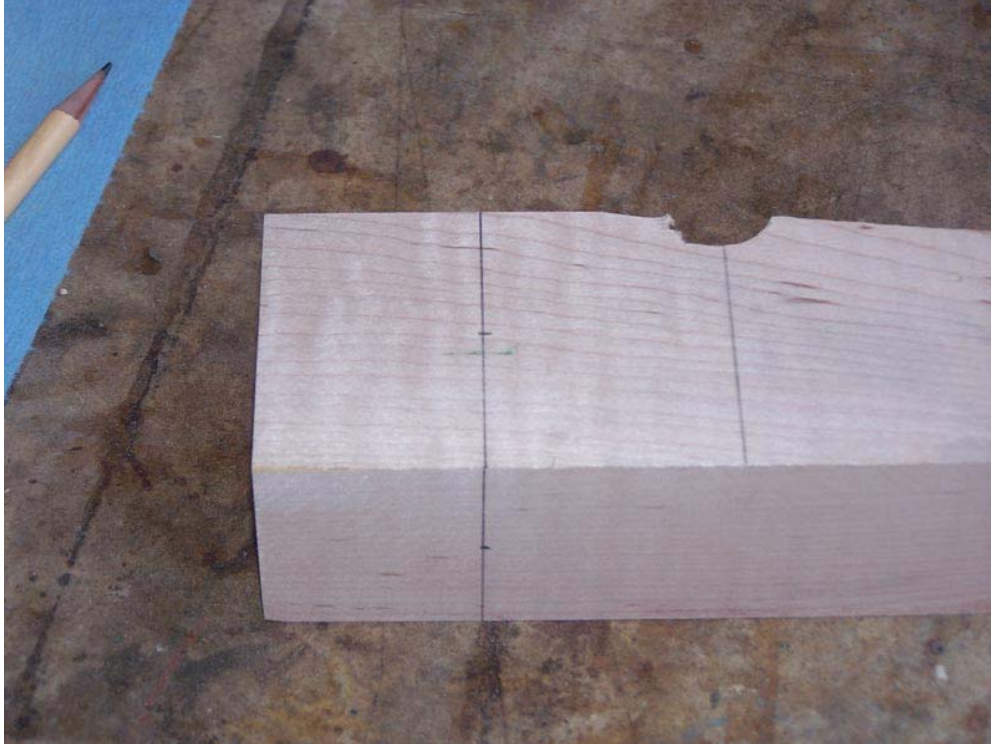
Next, we need to make a jig to drill a hole for the handle. Since the hammer head is 2.5" long, I took some 8/4 stock and cut it to 2.5" wide.



Next, I marked a line across and down one side, using a combination square.

Making a Small Brass Hammer

P. Michael Henderson - October 30, 2008

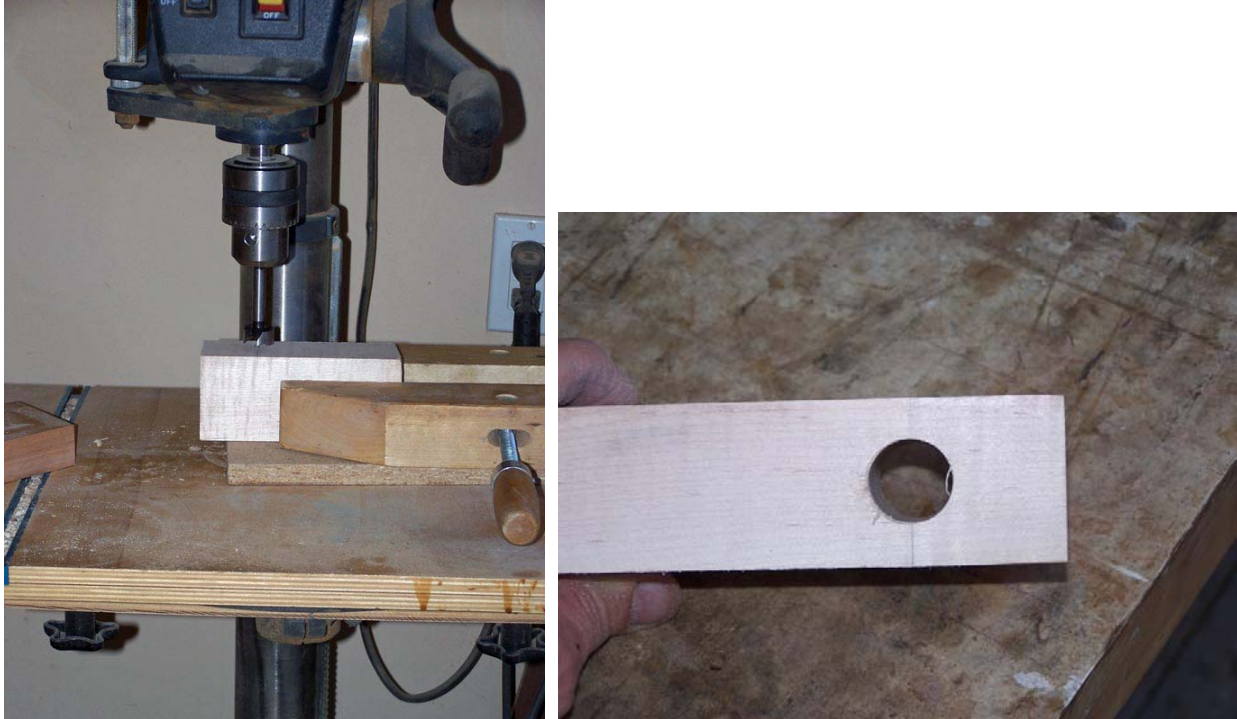


On the side, I made a mark half way along the line. I will drill a 7/8" hole and insert the hammer head into it to hold it while I drill downward to make the hole for the handle. Since one side of my hammer head is domed, I don't want to drill exactly half way - I want the hole closer to the flat face of the head. If I put the handle exactly in the center, it will look like the flat face side is longer because of the dome on the other side. So my mark on the top of the wood is not in the middle, but just a bit to one side.

In the next pictures, I'm drilling the 7/8" hole with a Forstner bit, using my drill press.

Making a Small Brass Hammer

P. Michael Henderson - October 30, 2008



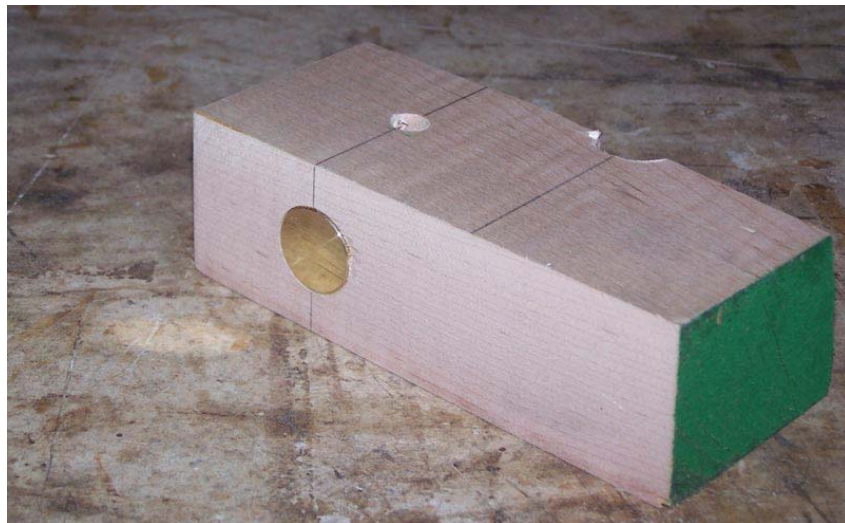
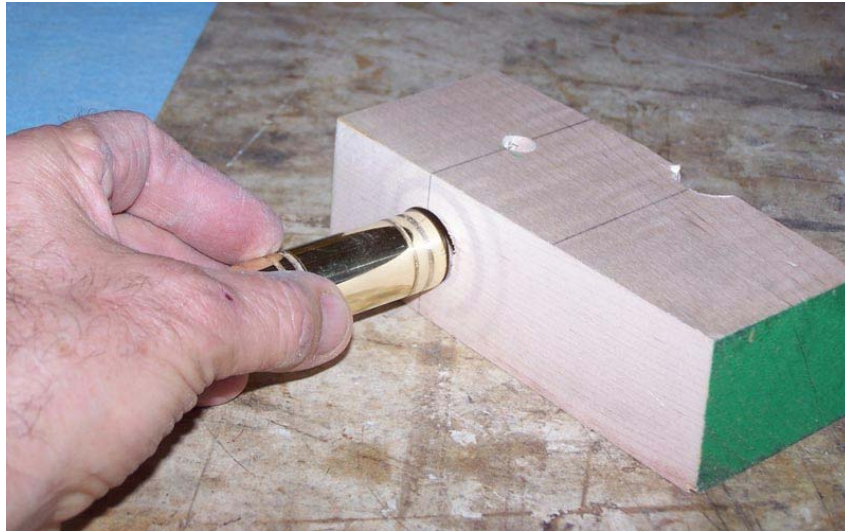
Next, I use a 3/8" bit and drill downward to create the locating hole for the handle hole. You could use a 1/2" hole but the 3/8" seems to work well and leaves more of the brass in the head for weight.



Making a Small Brass Hammer

P. Michael Henderson - October 30, 2008

Next, put the hammer head into the jig and drill the hole for the handle. I wasn't paying attention here and I put the head in backwards - so I drilled the hole closer to the domed side. I plugged the hole with a 3/8" dowel and re-drilled the correct way. These things always seem to happen when you're taking pictures.



Making a Small Brass Hammer

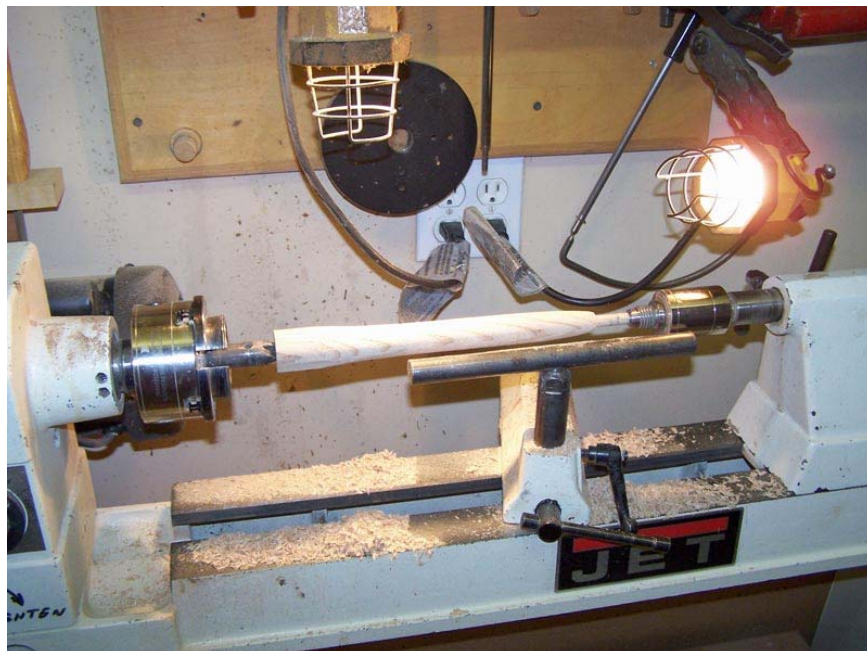
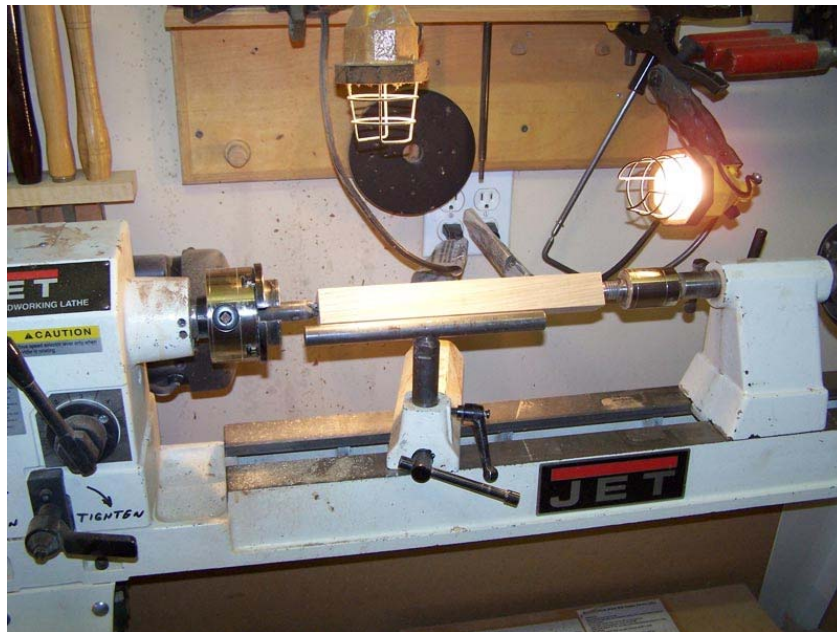
P. Michael Henderson - October 30, 2008



Making a Small Brass Hammer

P. Michael Henderson - October 30, 2008

The next step is to make the handle. I cut the ash blank to 11" in length before mounting it in the lathe. I do most of this on the lathe but you can do it with a spokeshave, or sand it to shape if you have a stationary belt sander. The top, which fits into the 3/8" hole in the head can be turned to size, or if you have a round tenon cutter (as are used for some chairs, such as Windsor chairs) you can use that. While the head is 7/8" in diameter, the part of the handle that goes into the head should be made longer, perhaps an inch to an inch and a quarter.



Making a Small Brass Hammer

P. Michael Henderson - October 30, 2008

I took the handle off the lathe and flattened the two sides because if the handle is not round, you can align the head by feel on the handle. If you make the handle round, you have to look at the hammer head to orient it.



Here's the handle inserted into the head.



Making a Small Brass Hammer

P. Michael Henderson - October 30, 2008

You can see the filler plug I put into the head from my drilling mistake.

I now want to make a wedge for the handle, and to put a wedge into the handle, I have to cut the handle to accept the wedge. It's not possible to just split the top of the handle and drive a wedge into it - the wood is not that soft.

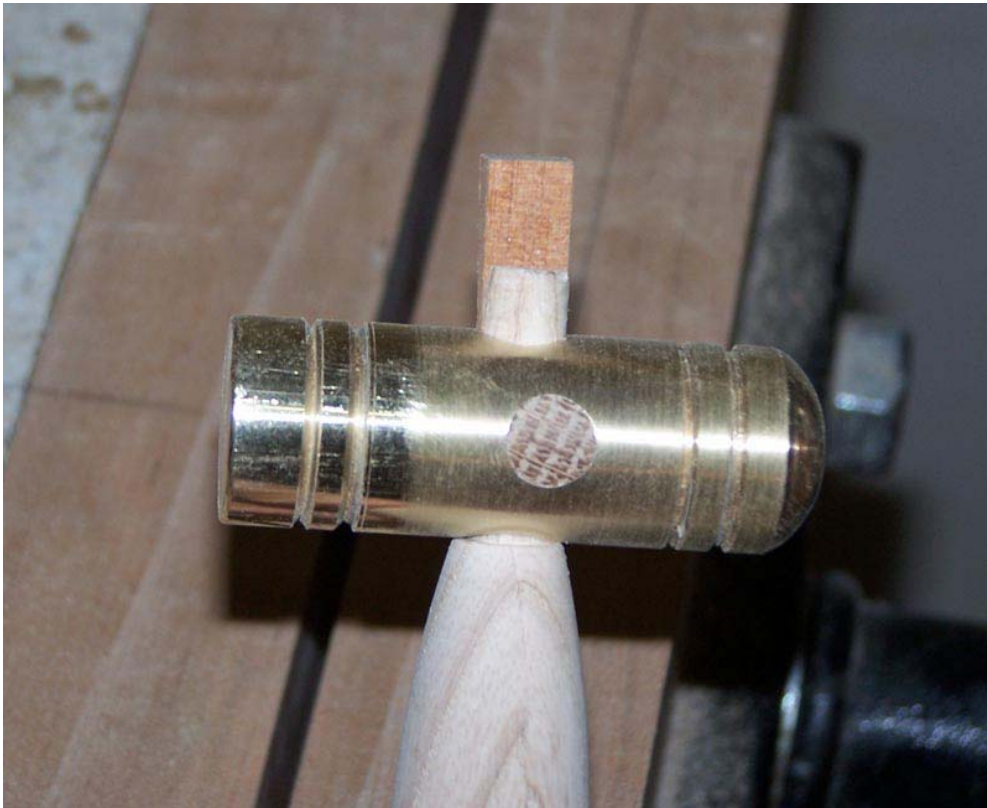
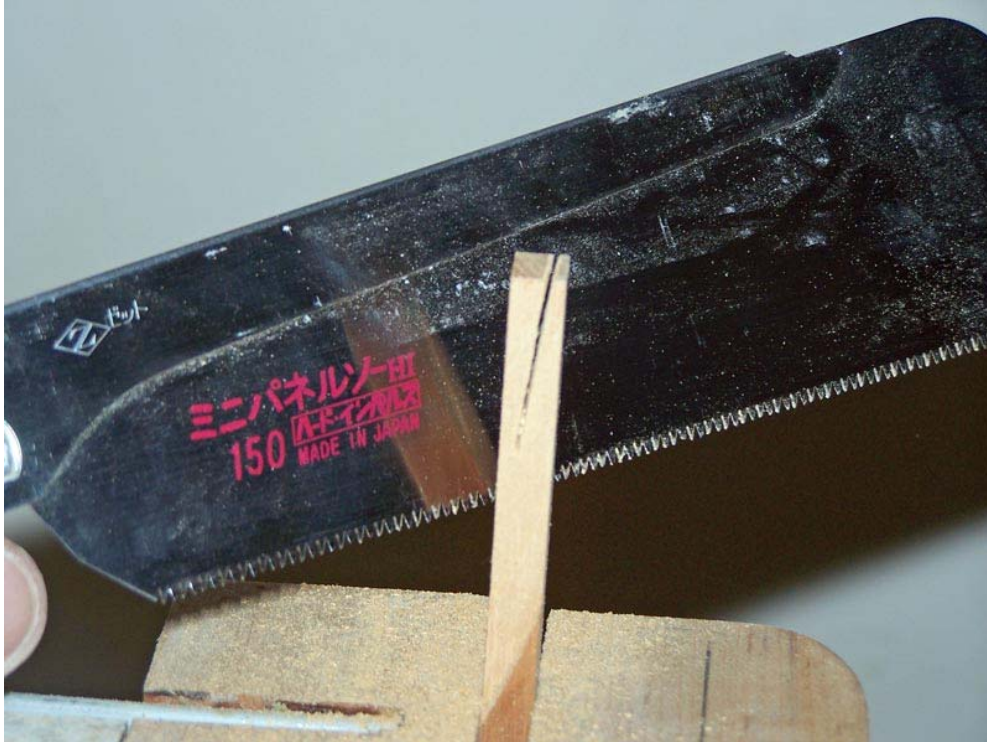
To cut the V-slot, I use a Japanese saw and cut the handle as shown.



Next, I need to cut the wedge. I took a piece of scrap and cut it to 3/8" wide. Then I mount it in my vise and use my saw to cut a wedge shaped piece off of it. While not shown, I cut the end of the wedge off so that it will go down into the slot.

Making a Small Brass Hammer

P. Michael Henderson - October 30, 2008



I apply some 5 minute epoxy to the handle, the slot, and the wedge and drive the wedge into the slot.

Making a Small Brass Hammer

P. Michael Henderson - October 30, 2008



When the epoxy is well set, I cut off the excess on the band saw, then trim the handle flush with the head with a chisel.



Making a Small Brass Hammer

P. Michael Henderson - October 30, 2008



I round off the bottom of the handle - I actually cut off about 1/4" to get rid of the lathe center mark - and sanded the bottom smooth and rounded. Then I applied a coat of wipe on varnish.



Making a Small Brass Hammer

P. Michael Henderson - October 30, 2008

Now you have a hammer and the total cost was no more than \$5 for the brass plus some scrap wood for the handle.

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If you want to make a hammer with one wooden face, as I showed in the first picture, use a piece of brass that's about 2" in length and make your wooden face about 1/2".

Take a piece of wood of your choice - ipe, bocote, and many other woods can be used for the face - and turn it a bit larger than 7/8", maybe 1" or a tiny bit more. You want the piece of wood to be large enough so that you will fill the face, even if the wood slips when being glued.

Then cut a piece 1/2" long off the turned piece.



Making a Small Brass Hammer

P. Michael Henderson - October 30, 2008

Drill a 3/8" hole into the piece of wood, about 1/4" deep. Also drill a 3/8" hole in one face of the brass. Use a dowel and glue the wood to the brass with epoxy. If one of both of your holes were not exactly centered to the point that you can't align the wood to the brass, trim the dowel so that you can slide the wood over enough to align it. There's no tension on the piece of wood so the glue only has to keep it from falling off.

Once you have it glued, you need to sand the wood to get it to the same size as the brass. This is important because you'll drill the hole using a jig like I described earlier and if you don't sand the wood down to size, you won't be able to get the head into the jig.

After gluing and sanding, you have a head that's 7/8" in diameter and 2.5" in length - the same as the head in the earlier tutorial. But when you drill the hole for the handle, you want it centered end-to-end. If you have questions about your jig, get a piece of 7/8" dowel and cut a piece to 2.5" and drill that before you drill your brass. That'll let you know if everything is set up properly.

The hammer with the wooden head is good for adjusting wood planes. You can use the brass side to tap on the iron and the wood side to tap on the plane.

They're easy, cheap, and fun to make. I hope you enjoy making yours!