

MAKING AN AUGER BIT

By Oliver Cameron
with Ole Wik

In times gone by, people would make an auger bit by taking a round or square piece of metal, flattening it out on the end, and running an eye in the top for a cross handle. My idea was to try to adapt that type of leg to a wooden handle so that I wasn't carrying so much weight around.

When you want to go to spring camp and take a few light tools, you can just take a flat piece of metal and make yourself a blade that will be much lighter than a regular 1-1/2 or 2" auger bit. When you get there, you take a stick of wood and make a handle that has a hole in it for a crosspiece that you turn. You press down as you turn the tool. It works a little slower than a brace and bit, but it's far lighter and it gets the job done.

What do you use as a source of metal?'

That depends on what I have. A piece of sled runner works real well. I have used a piece of a hoof rasp, although it's a bit of a bother to file off both sides.



One style of Oliver's handmade auger bits. The circle cutter is next to the round cutout, opposite the flat cutting edge.

Images: Heidi Dammann

By using a fairly heavy piece of steel, the two arms that attach to the handle can be longer. You have to make that distance shorter with fairly light steel, because they tend to warp.

Basic design: At the very center of the working edge of the blade I form a point by making two slanting cuts with a small hack saw. The point keeps the blade centered and boring down straight. I sharpen this center post and taper the sides in such a way that it has a little bit of a cutting edge, but there's no screw there, and it doesn't do a whole lot of cutting. You control the depth of the bite by the downward pressure that you put on it.

Then I make a slanting cut on one edge to form another point. It is somewhat shorter than the central point, but still extends a little lower than the cutting edge. Its function is to cut the wood fibers as it goes around and scribes a circle around the central point. The cutting edge follows behind and lifts out a chip of wood, just as the raker of a saw does.

The flat side is the cutting edge. I sharpen the blade on one side, with the bevel bent forward right at the edge. It's tilted just enough to give the tool something of a bite. As it turns, it's slightly ahead of the main part of the blade and will pick up a shaving.

Between the circle cutter and the central point there is a gap that doesn't ride down on the bottom the hole. That doesn't leave much of a reservoir for the shavings, and they'll build up in front of the cutter. To get around that, I cut out quite a curve alongside the circle cutter so that some of the shavings can slip under and accumulate on the back side of the blade.

I have tried making a cutting edge on both sides and a circle cutter on both sides, but have never been able to make them work as well.



Double-cutter style.



Another single-cutter design.

Handle:

These bits are designed to fit onto a round wooden shank that is smaller in diameter than the width of the bit. There's a groove in the handle that corresponds to notches that I file into each side of the bit. I wrap wire around it to keep the bit from sliding out of the handle. The end of the handle would be just about opposite those notches.

Since the blade is flat and doesn't have any screw to bring the shavings up out of the hole, they'll soon fill up the space from the end of the bit to the handle. You'll have to pull the auger out of the hole periodically and fish them out. Or, if it's a small enough stick, you can just turn it over and tap it. Then you stick the bit back in the hole and turn it some more.



Oliver also fastened this commercial auger bit to a wooden handle. The metal tab on the underside of the handle has a tongue that extends into the wood to keep the handle from spinning. The nut on top holds that metal plate tightly against the handle.
Image: Molly Rettig, Cold Climate Housing Research Center

Quite often I won't even use an auger. There are lots of cases where you just cut a dovetail in the side of a stick, whittle another stick that's tapered to fit the dovetail, and shove it in there. That gives you the same thing as if you'd drilled a hole and put a stick into it.

EXTRA SECTION²: MORE DRILLING TOOLS

By Ole Wik

These images by Curt Madison capture Oliver's minimalist approach to life. Rather than packing a heavy brace and bit around—



Commercial brace and bits.

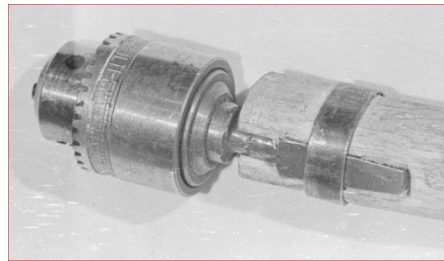
Image: <http://breenbushdesign.wordpress.com/2012/02/28/rip-the-nicholson-auger-bit-file/>

Oliver would make his own:



Note the two-piece hand grips and top handles, all of which turn.
Images: Curt Madison

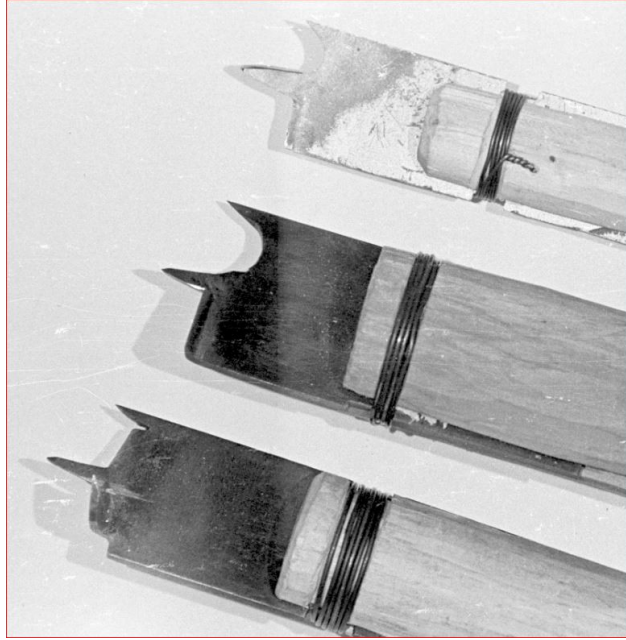
Oliver made these from scratch, except for the chuck in the upper tool that holds the actual bit.



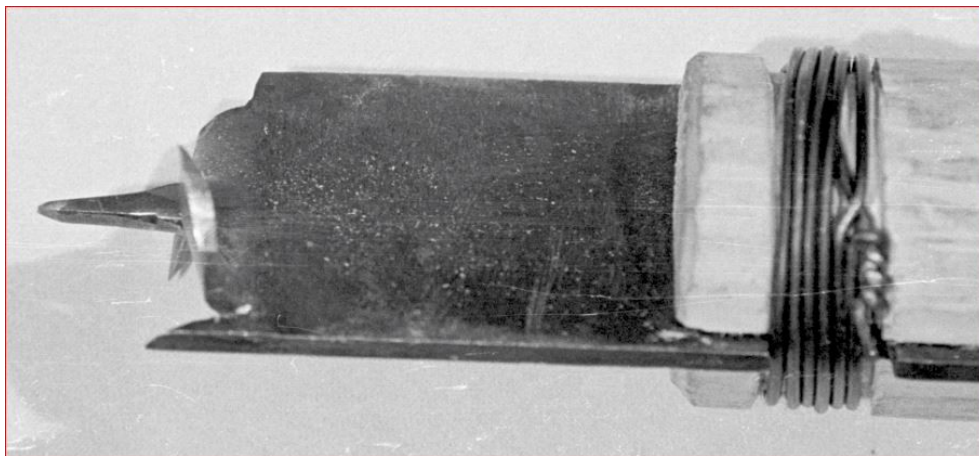
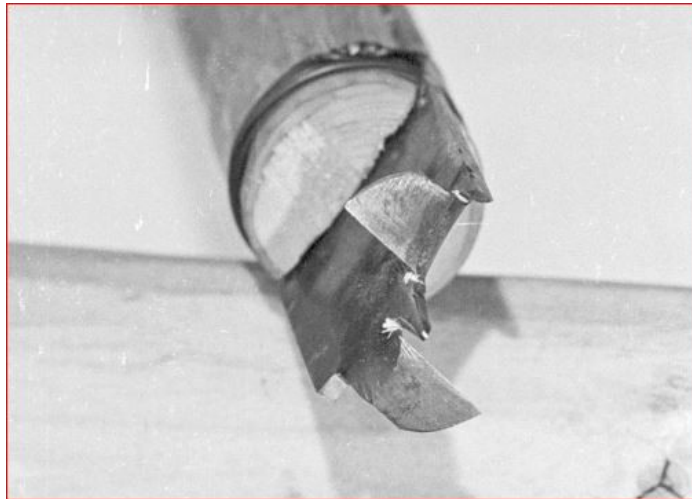
More of Oliver's homemade auger bits and handles:



Close-ups of the homemade bits:



Two views of the bit in the lowermost bit:



1) This essay stems from a series of telephone conversations that Ole Wik had with Oliver between December 2007 and February 2008. Highlighted text indicates remarks made by Ole.

2) Air service companies in Kotzebue that served Ambler and the other villages in northwest Alaska often had more mail or freight than could be accommodated on their regularly scheduled flights. In such cases, they would lay on a non-scheduled flight known as an "extra section".

In the present context, I'm using the term for information and images that Oliver and I didn't discuss directly during our interviews, though we may well have talked about them many times during our Ambler years.