Bevel Cut
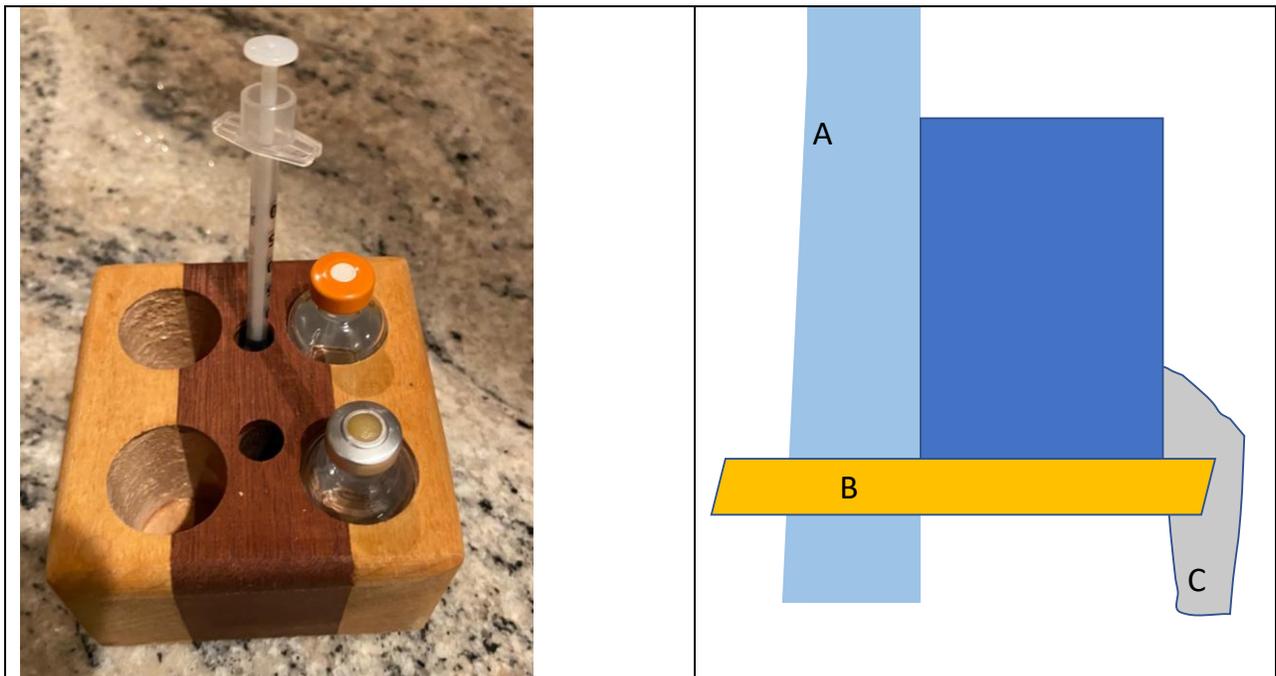**October, 2020**

What's In Your Scrap Heap?
Andrew Davis

One thing I'm confident of: we all have a scrap heap somewhere in our workshop. I'm forced to admit that my own heap has become embarrassingly large, but I cannot figure out why. So, I've started to think about this problem in several dimensions:

1. What can I do with the scrap? I've toyed with several ideas, including making picture frames of many different types, trivets, cutting boards, medicine vial holders, and boxes. In the case of picture frames and boxes, there are many magazine articles that explore dozens of design options. I've made a few simple picture frames but nothing worth mentioning. I've also made a few cutting boards (including one edge grain version), and pretty blocks to protect insulin in a refrigerator. I did see somewhere a neat picture holder that used just three small pieces of wood. I'm planning on trying this soon. My diagram of the frame is less than rudimentary (I need a good drawing program), but you can imagine three pieces of different exotic woods with some curves rather than straight edges. Part A has a through mortise to hold part B and in my imagination a saddle joint connects part B to part C. All three pieces have grooves (1/4"?) down the center to hold the glass. So, three small pieces of scrap plus some handiwork, and you have an interesting housewarming or graduation gift not like something your recipient would find in Michaels or Walmart (Etsy maybe?).

2. Every time I make an item from scrap, which admittedly is not that often, a friend will advise me to start a business to make and sell the widgets in mass production. When I get such an urge, I lie down until the urge passes. They also ask me what it cost to make the gizmo. This brings up an interesting accounting enigma having to do with byproducts. Byproducts are secondary results, unintended but inevitably produced while producing something else. So, if you go out and purchase 10 board feet of hardwood at $8.75 per bf and make 8 cutting boards you can calculate the wood for each cost you $10.94. But suppose you have one piece of scrap left and whittle a spoon with it. What did the wooden wood cost you? Good question.

3. A consulting friend tells me that the secret to having a woodworking sideline business while being retired is to find a product that has a high value or selling price but a small material content (my picture frame sketched above would fit that bill). I did a little research on the subject which I will share, though it is nowhere as interesting as the illustrated history of hide glue. So….

   Let R = revenue from selling your product made from scrap
   Let C1 = the cost of wood (zero for byproducts, exceptions may apply)
   Let C2 = the cost of ancillary materials (glue, stain, dowels, biscuits, etc.)
   Let C3 = the cost of wear and tear on equipment (router bits, saw blades, etc.)
   Let B = the risk factor per hour to your body or health (kickback, nicked finger, fractured kneecap, strained lower back, dislocated shoulder, eye injury, etc.) from woodworking
   Let Z = number of manhours required (jig building + setup + operations + cleanup)
   Let H = happiness or satisfaction coefficient for emotional health assuming successful project
   Let P = your operating income per hour

   $$P = ((R-(C1+C2+(C3\char`\^B)))*H)/Z$$

   It appears I am running between 17 and 19 cents per hour! How are you doing?