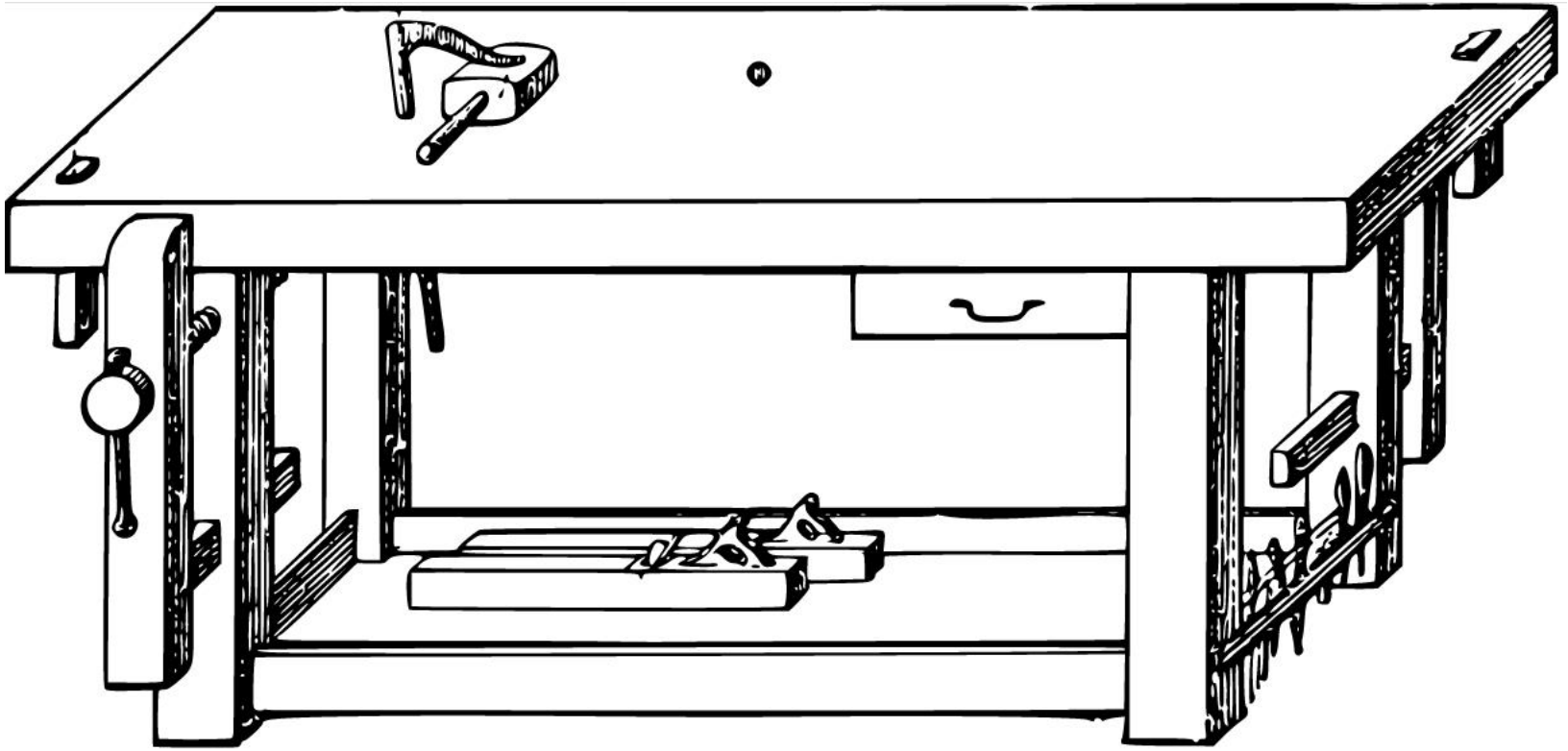
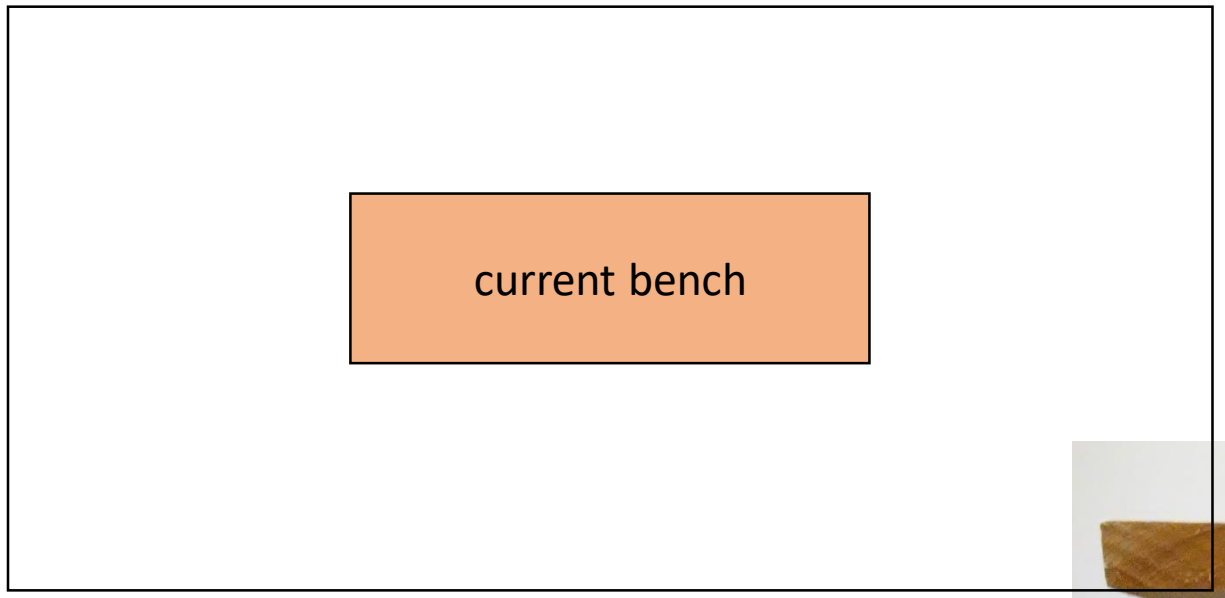
Why you should (and should *not*) build your own workbench



Aspects of a Workbench

- Supports your work
- A reference
- Hold stuff down (clever clamping)
- Immobile!
- Elaborate tool
- An extension of yourself

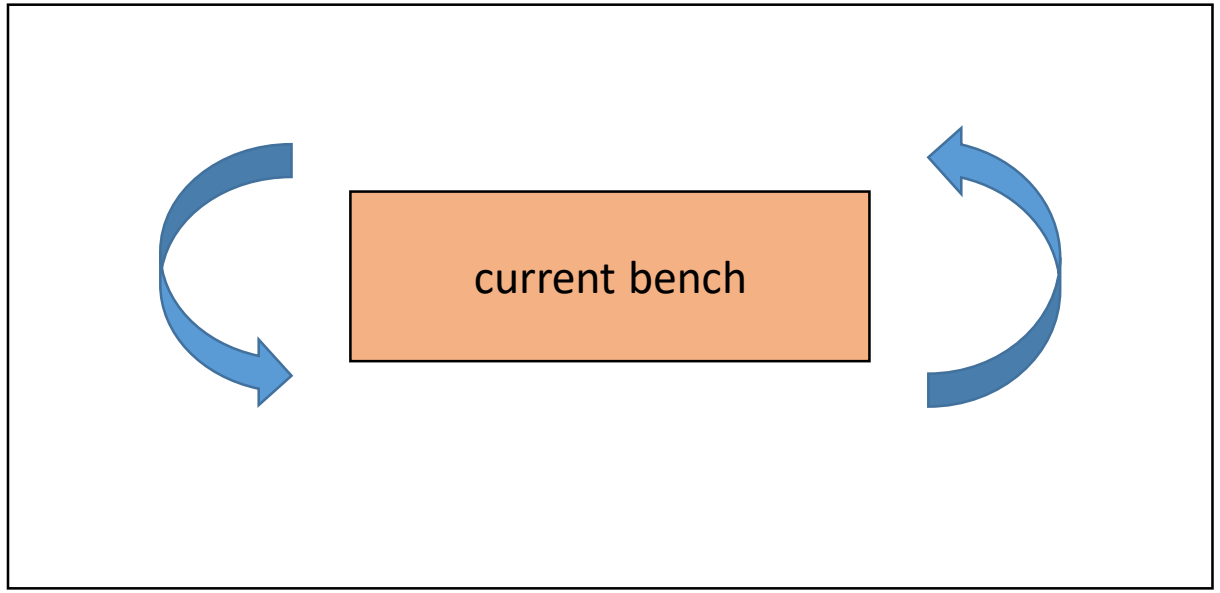
My Workspace



It fails!

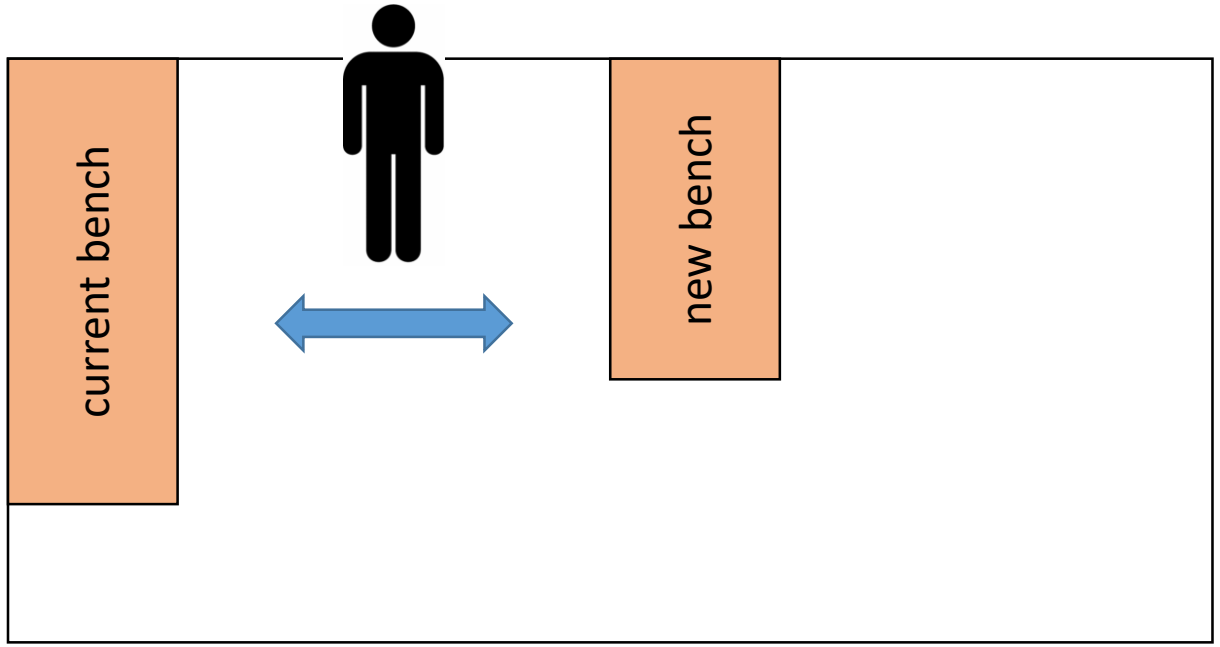
- Approx. 9’ x 20’ space
- Current bench made from shelf-links
- Check the list…

My Workspace



- Layout is annoying…
- Constantly moving around the bench…

My New Workspace

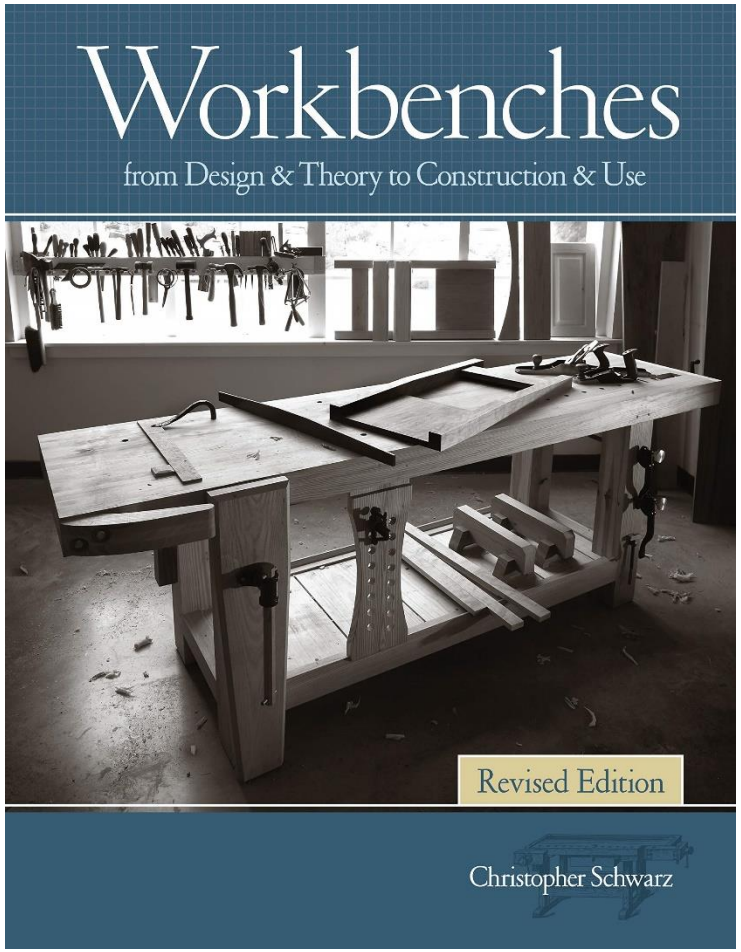


- The new layout
- Options for new bench…
- Buy it: $1000 to $3000 (roughly). Ex: Sjoberg
- Build it…

Why Build a Workbench?

- To save money. No!!
- To customize it. ehhh…
- The learning experience. The only real reason!

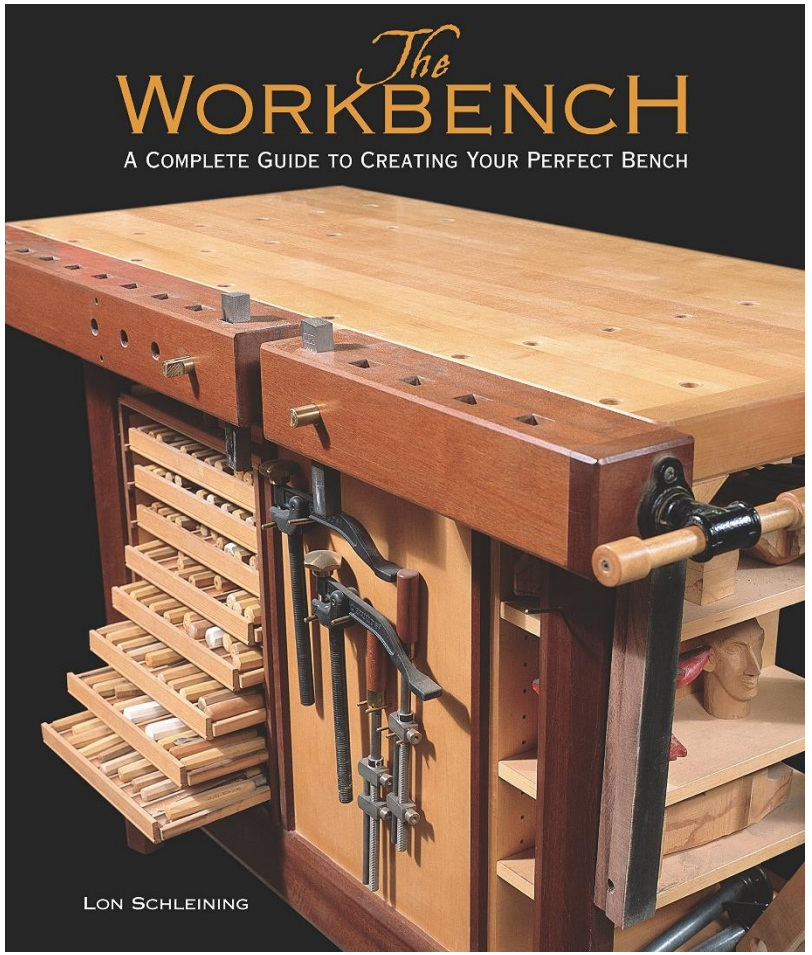
Resources



"invent nothing"

- Very detailed
- A little dense

- I liked this better



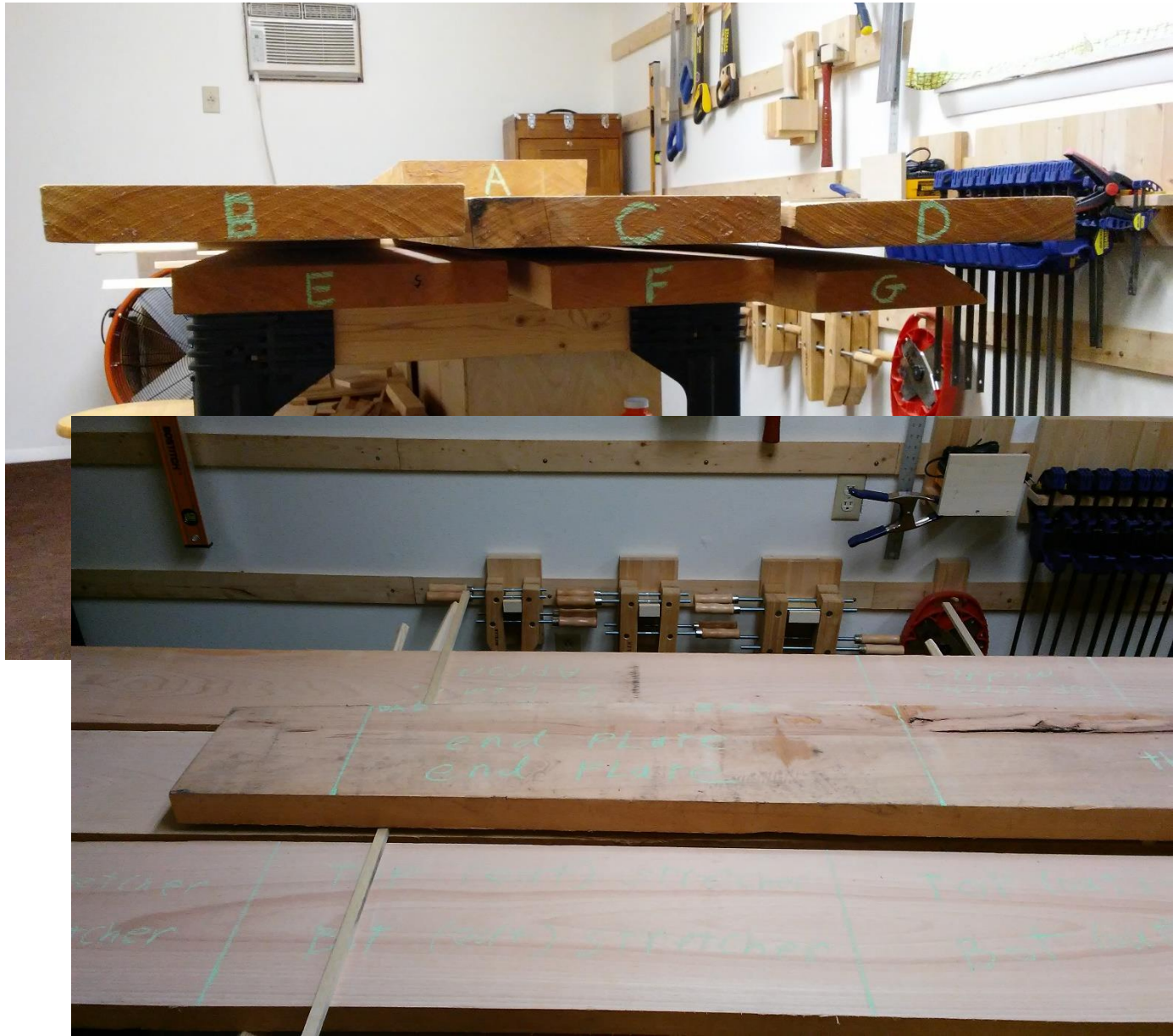
"rite of passage"

Basic Design

- Dimensions:
  - Top: 5’ x 25”
  - Desired Height: 36 3/4”~ 37”
  - Actual height: 36 5/8”
- Face Vise
- End Vise
- Aprons
- End-Caps

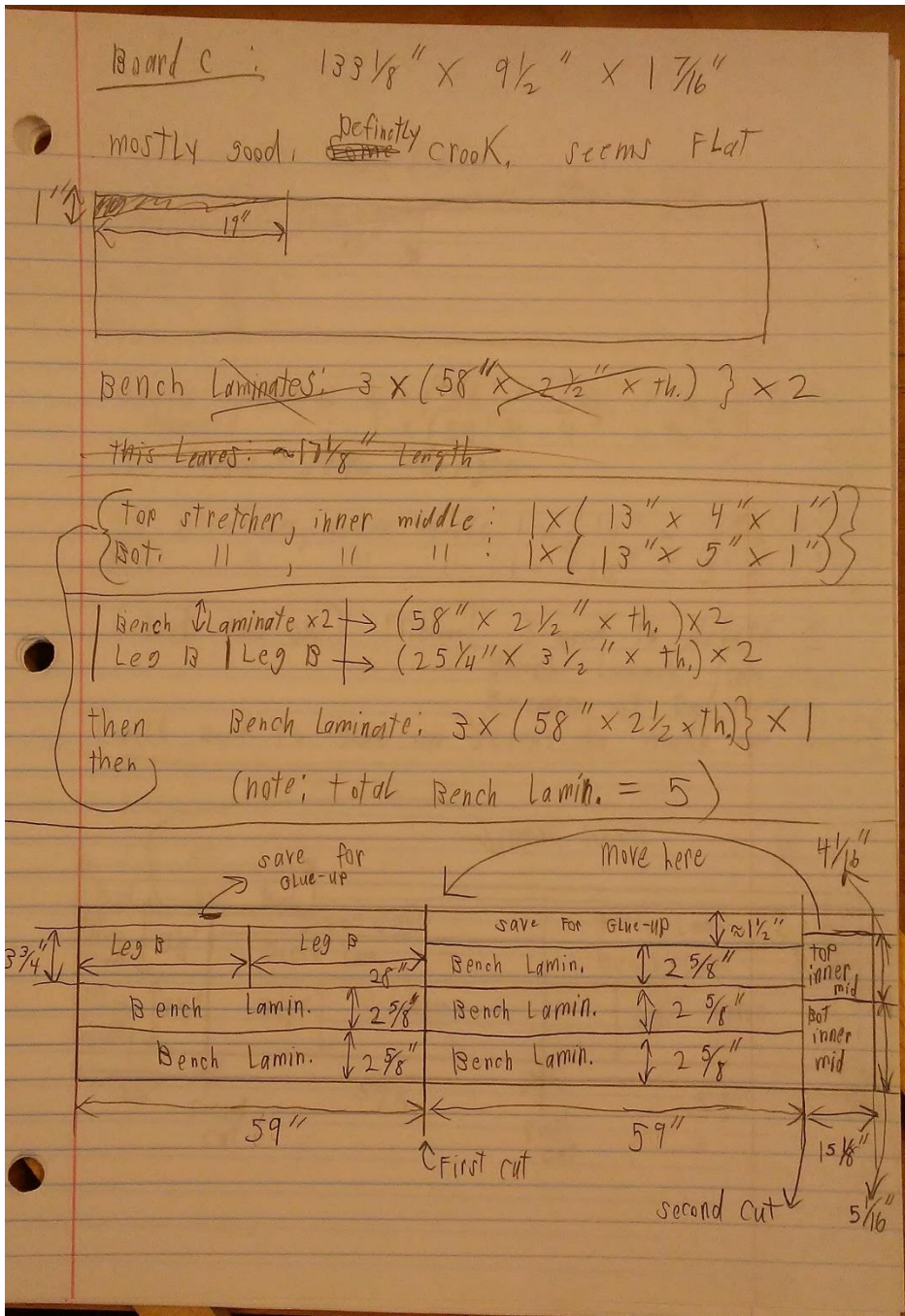
Buying the Lumber

- Brazos
- 74 BDF of 6/4 Euro. Beech
- 10 BDF of 8/4 Euro. Beech
- Total (with tax): $245.16
- They discounted some boards with bad parts, but I still missed some.
- Wished I would have gotten pine boards to do the legs…



Break It Down

- Do initial cuts with circular saw
- Document each board
- Optimize cut list, i.e. use straightest boards for benchtop, etc.
- Account for “bad” sections



After Some Cuts…

- Run through the planer
- Label everything!

More Cutting

Don’t forget the featherboard!

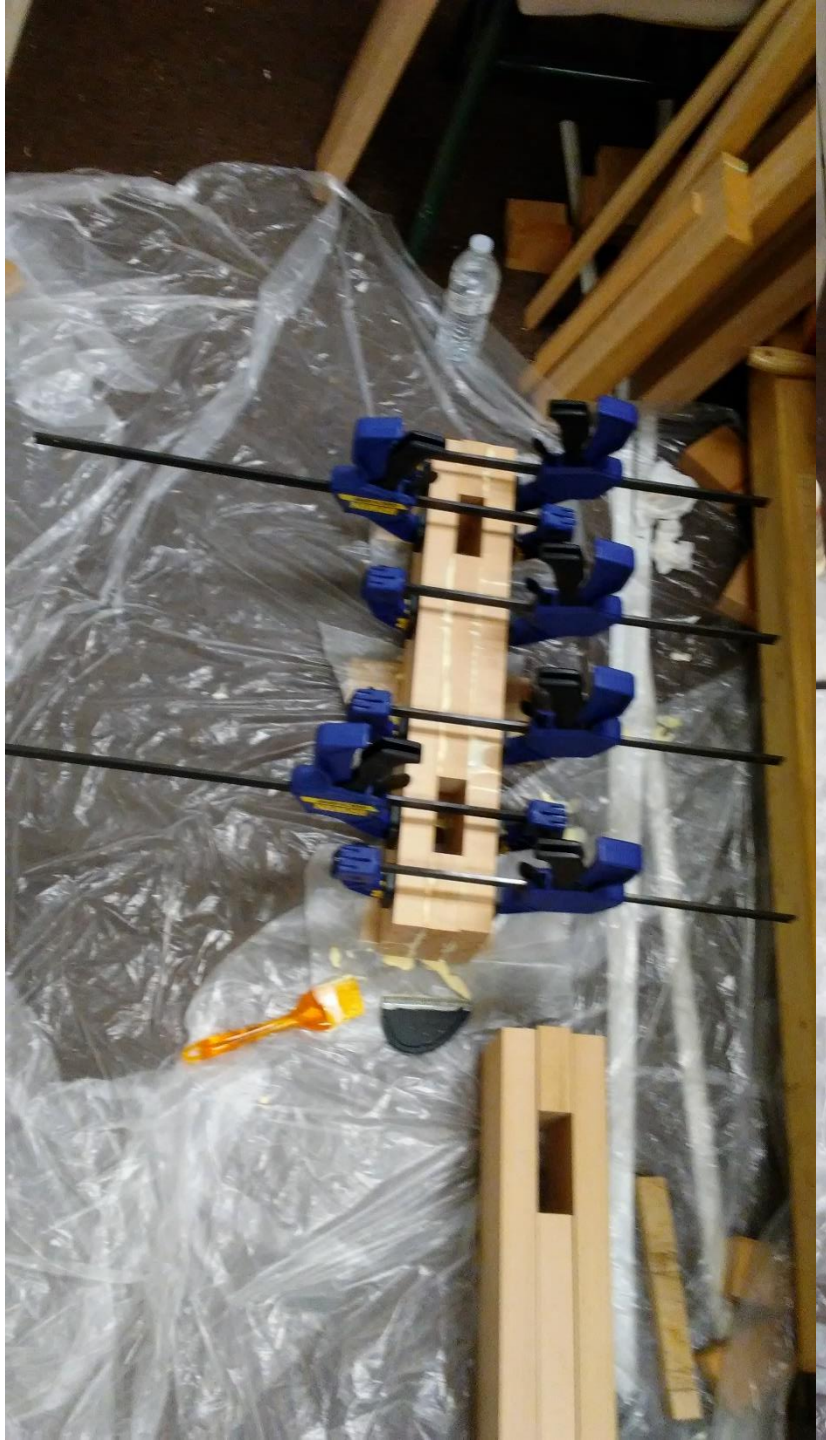

BOSCH
TS3000

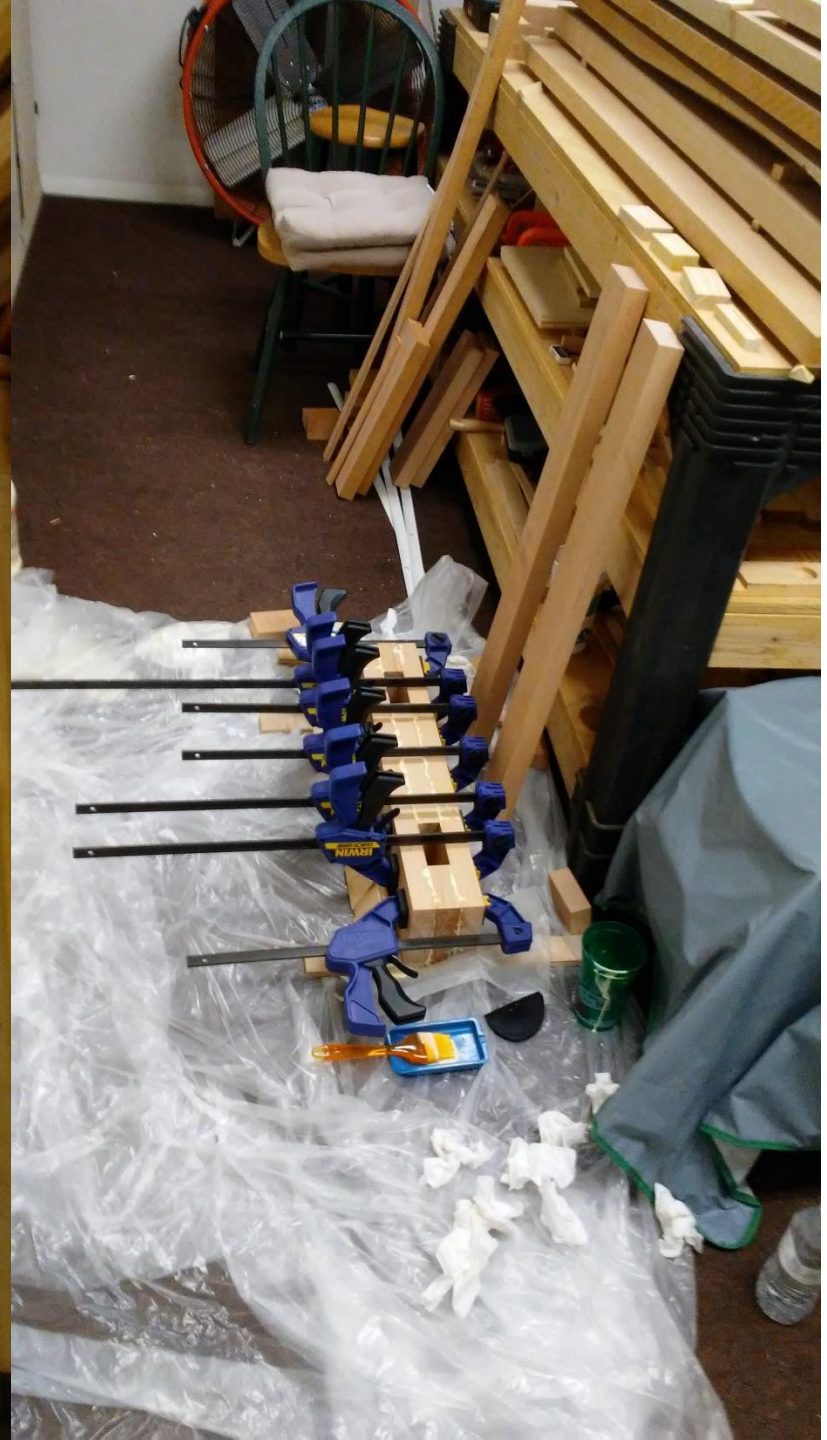
Assembly

- Done with parts for now…
- Next, **glue** up the legs
- Rip the benchtop laminates aprons, etc.
- **Glue** up the benchtop
- Mount vises
- …

The Legs

- Start with the “feet”
- Create mortices for legs
- This was **not** the best way to do it





Lots of gluing…

Top Part of Leg

- Similar to foot of leg
- The top brace of the leg

Livia “helped”

Glue up Legs

Glue up Legs

It was a river of glue…

Jane “helped”

The Benchtop

- Rip the rest of the boards for the laminates and aprons
- More gluing!

Half of Benchtop

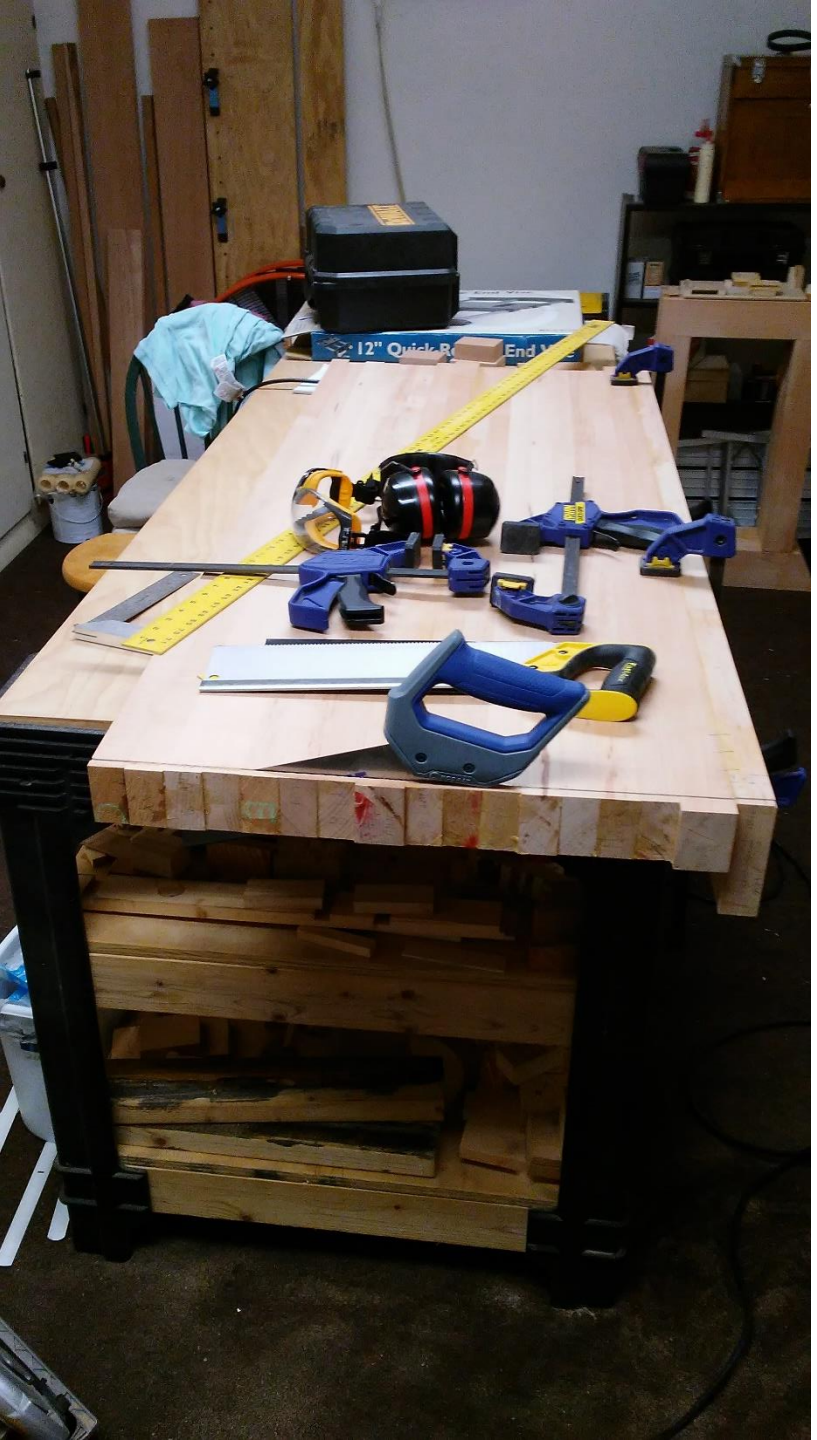
The Other Half

Now Plane Them…

- Just barely fits…

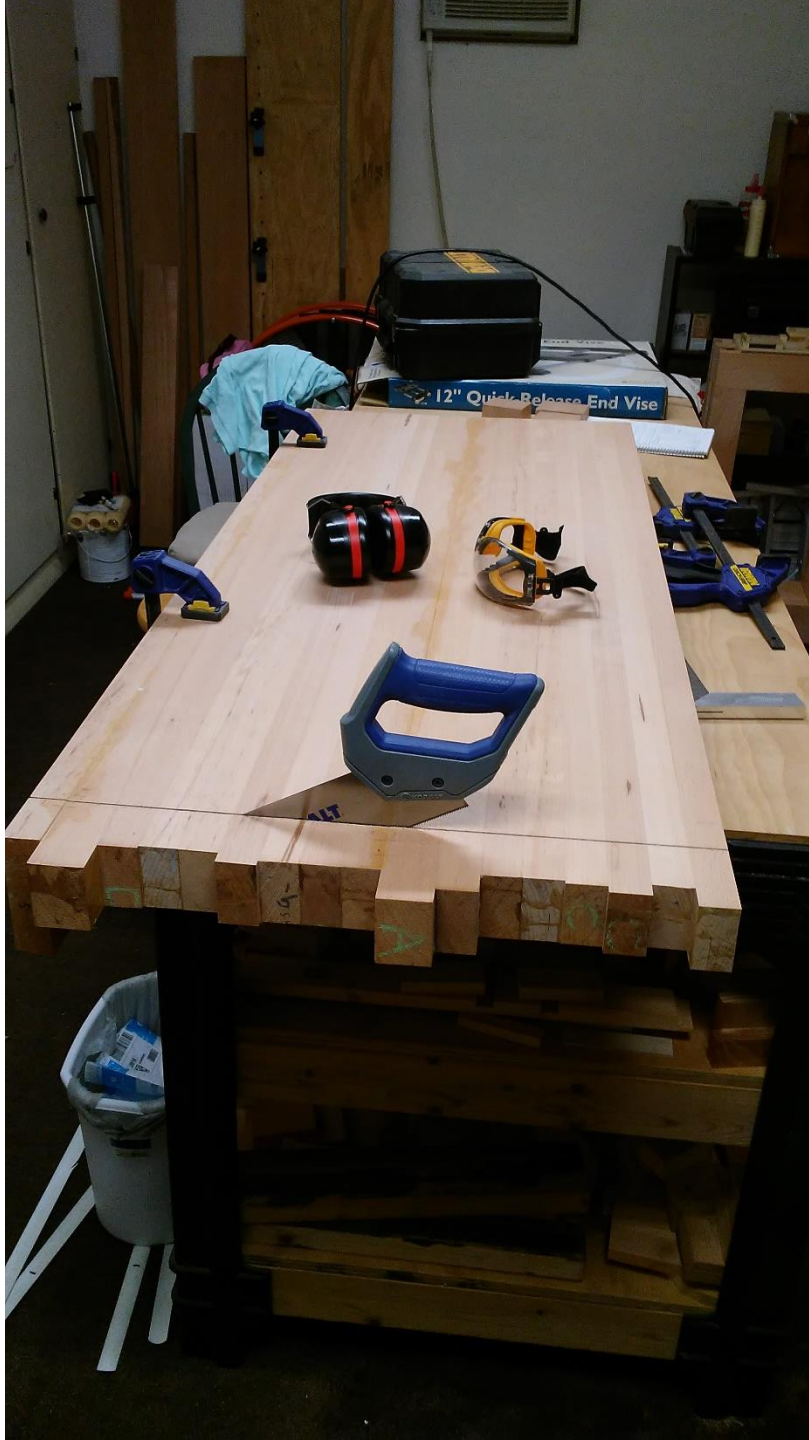
Bring It Together

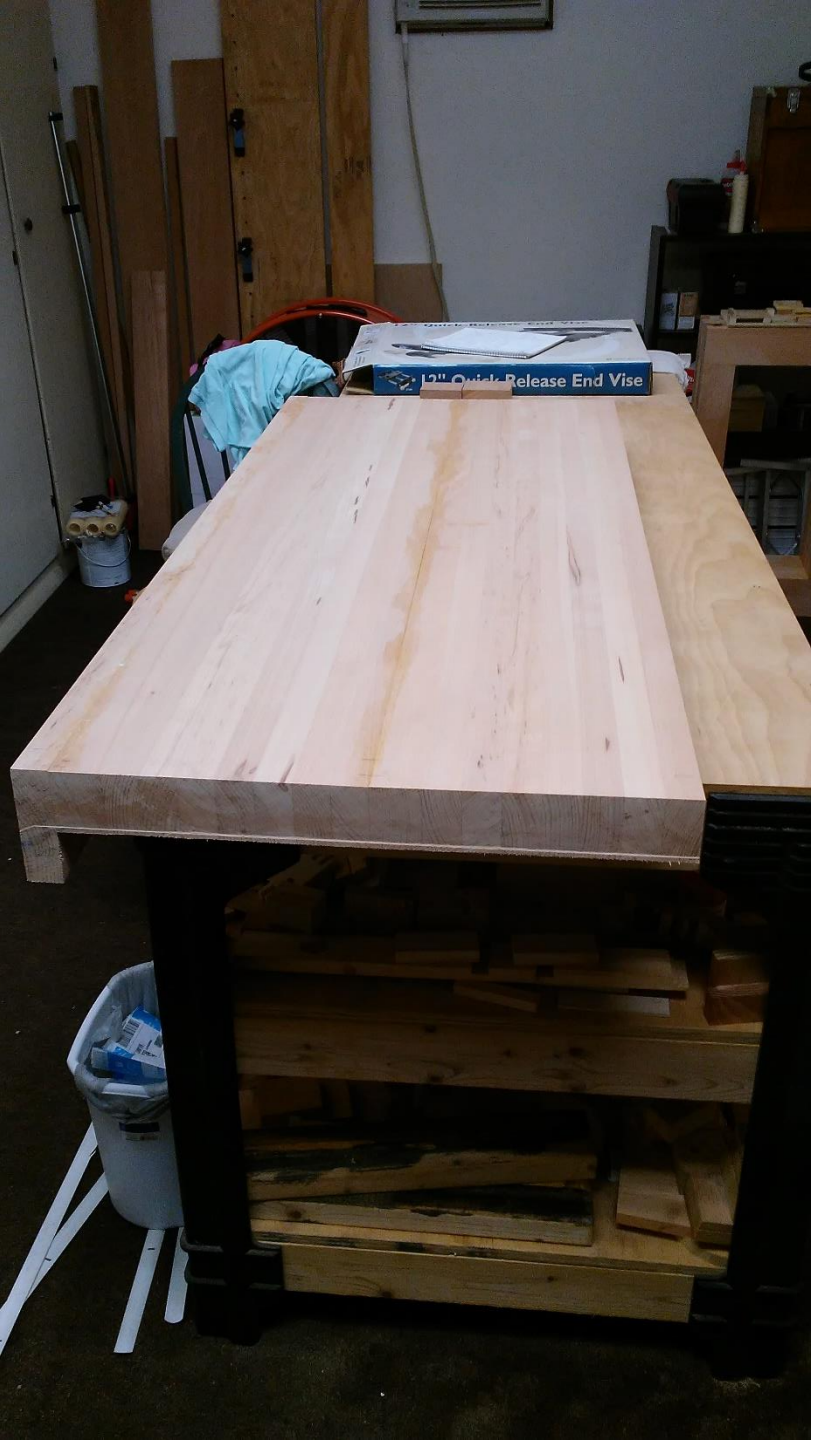
- One of the halves was bowed (my error in planing)
- Clamped a red oak board to “bend it back”
- Then glued it all, with one of the aprons



Saw Off Ends

- My circular saw wasn’t quite deep enough…
- Had to hand saw the rest…





Flat Ends

- Well… some minor cleanup…

It Never %&$#-ing Ends

- Glue on the other apron
- Cut into two pieces to accommodate the vise
- I used **¾ gallon** of glue for this project!

Glue, glue, glue, until you're glue in the face!

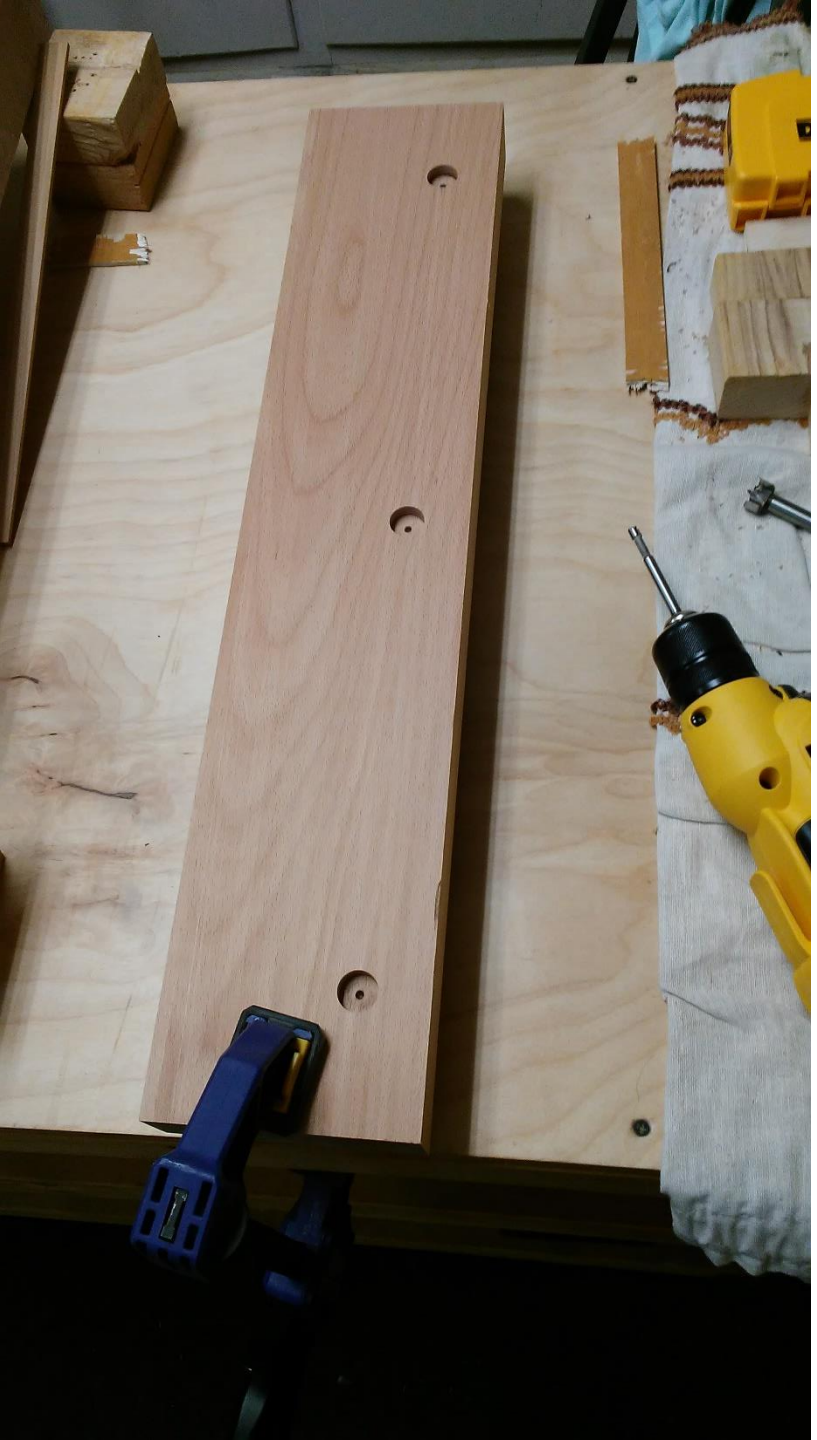
End-Caps

- I still need the two end-caps and the vise-plate
- Had to glue up “scraps”

And Plane Them

- Make sure the damn things are flat!
- And then the final cuts..


SAFETY!
BOSCH
BOSCH
TS3000
GRAVITY RISE

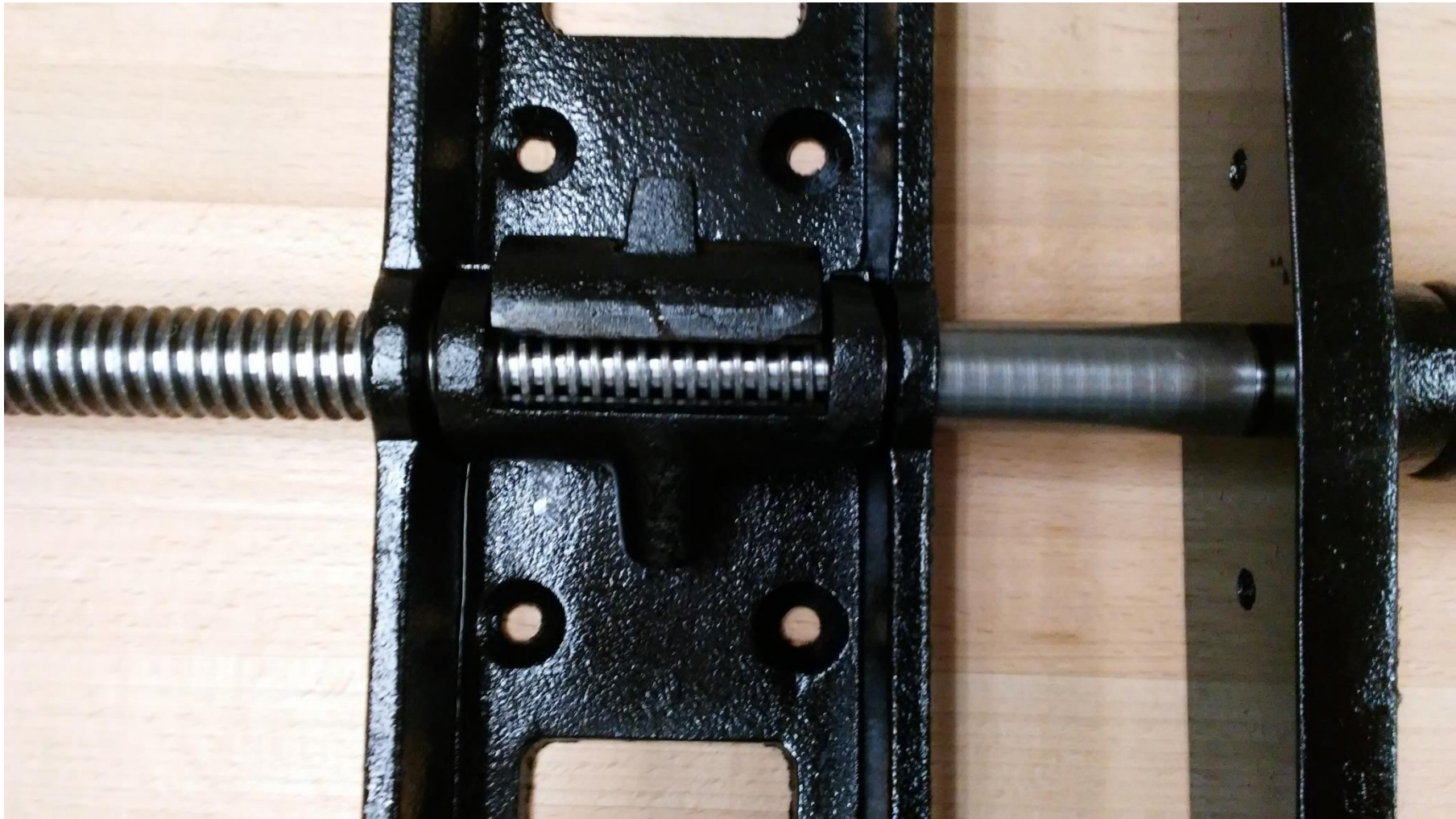


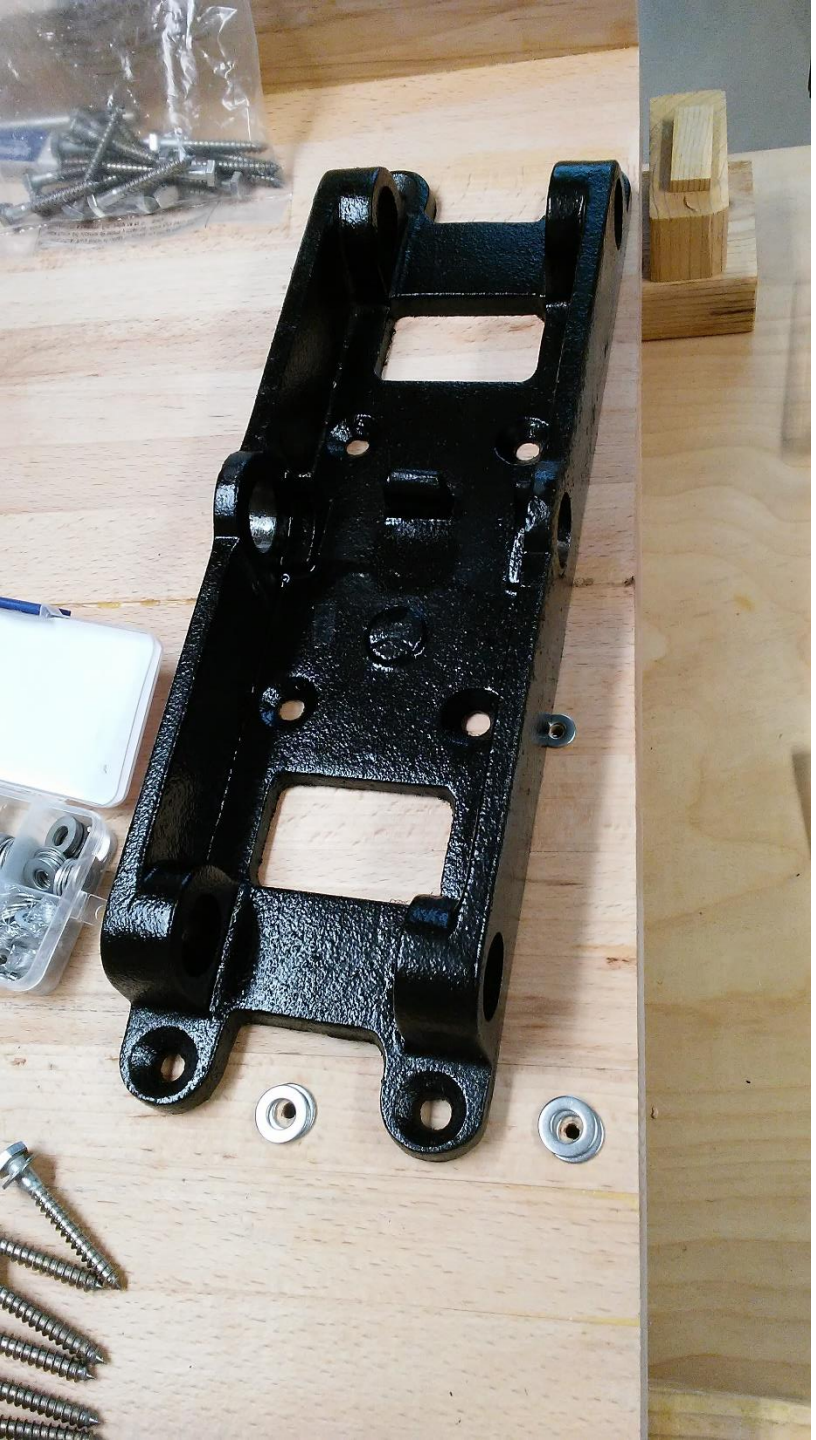
End-Caps

- Attach the end-caps with lag screws
- Widen outer holes for wood expansion/contraction (not shown)

End-vise Mechanism

- Rockler 12” quick-release





Attach Vise

- Because of un-evenness of bench slabs, needed to “shim” a bit
- 8 lag screws takes a long time to put in…
- Next, drill through holes and finish the end-vise installation

Remaining items…

- Attach the face-vise (holes already drilled)
- Drill through holes in legs and cut cross-beams
- Setup leg base with lag bolts
- *Paint* the legs and cross-beams
- Rearrange the shop
- Flip the top over (with HELP!) and put on legs
- Plane/flatten the top…

Things I Should Have Done

- **Discussed my design** more with others; Kesh was helpful for later issues
- Get lumber (pine) for legs only, build the legs, and **then** get lumber for benchtop, etc. (My shop is small.)
- Maybe I should not have put aprons on it?
- Probably should have just built an **established design**. (But what's the fun in that?)
- YouTube is great but not always correct (see first bullet).

Alternative

- Why does a “real” bench need to be made from hardwood?
- Make it out of plywood and/or MDF! →
- It satisfies the earlier criteria
- No flattening! ☺

(Hardwood is better used for other things)

https://robcosman.com/blogs/robs-blog/make-your-workbench-from-mdf-plywood

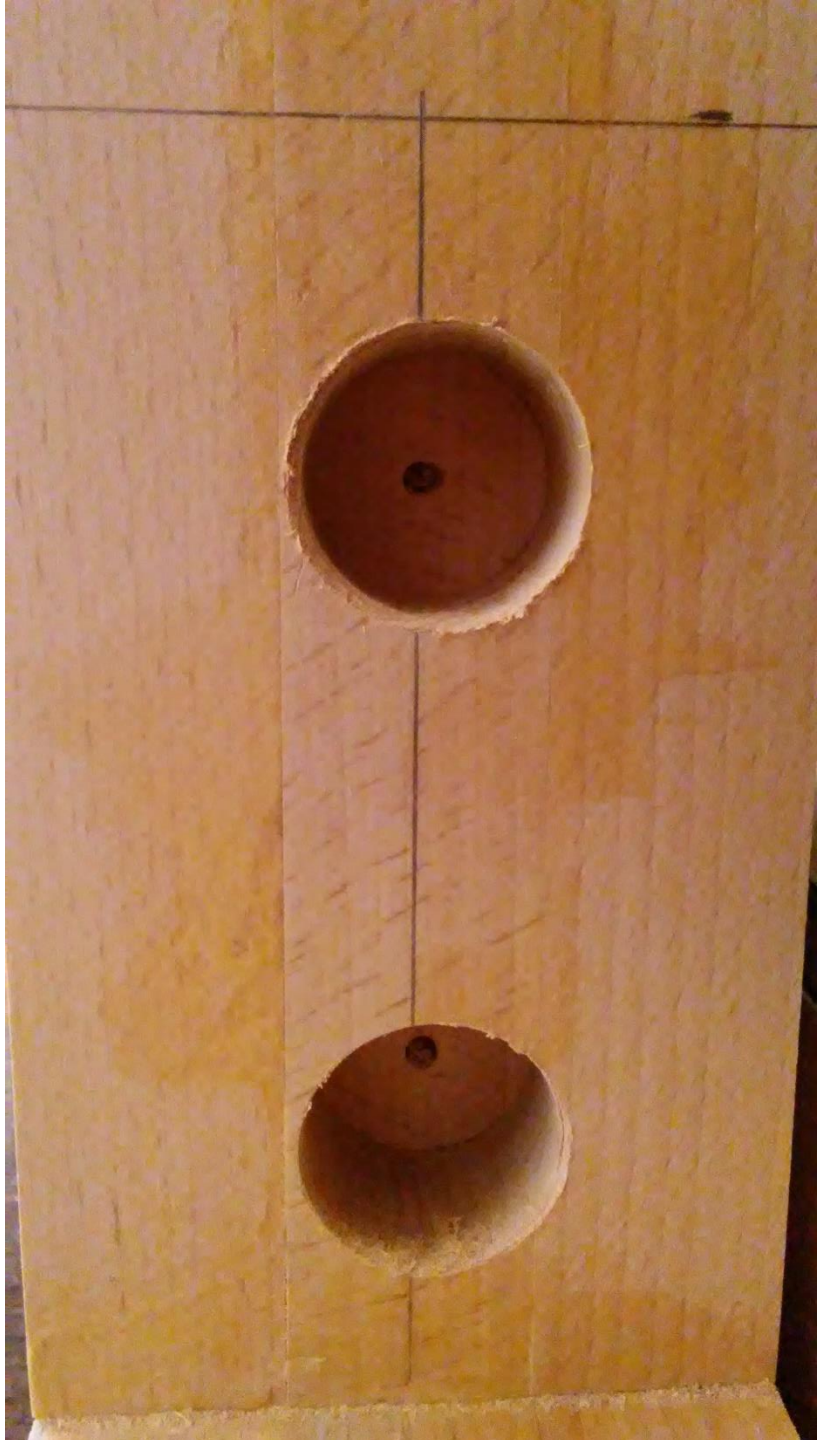
Thoughts

- You will **learn a lot** from building your own workbench
- Experience many **extremes**
- Takes a lot of **time**, but you gain a lot of **experience**
- Gain a better sense of the **time and effort** for woodworking
- It doesn't need to be perfect

- Don't let perfection of the tool get in the way of **using it**

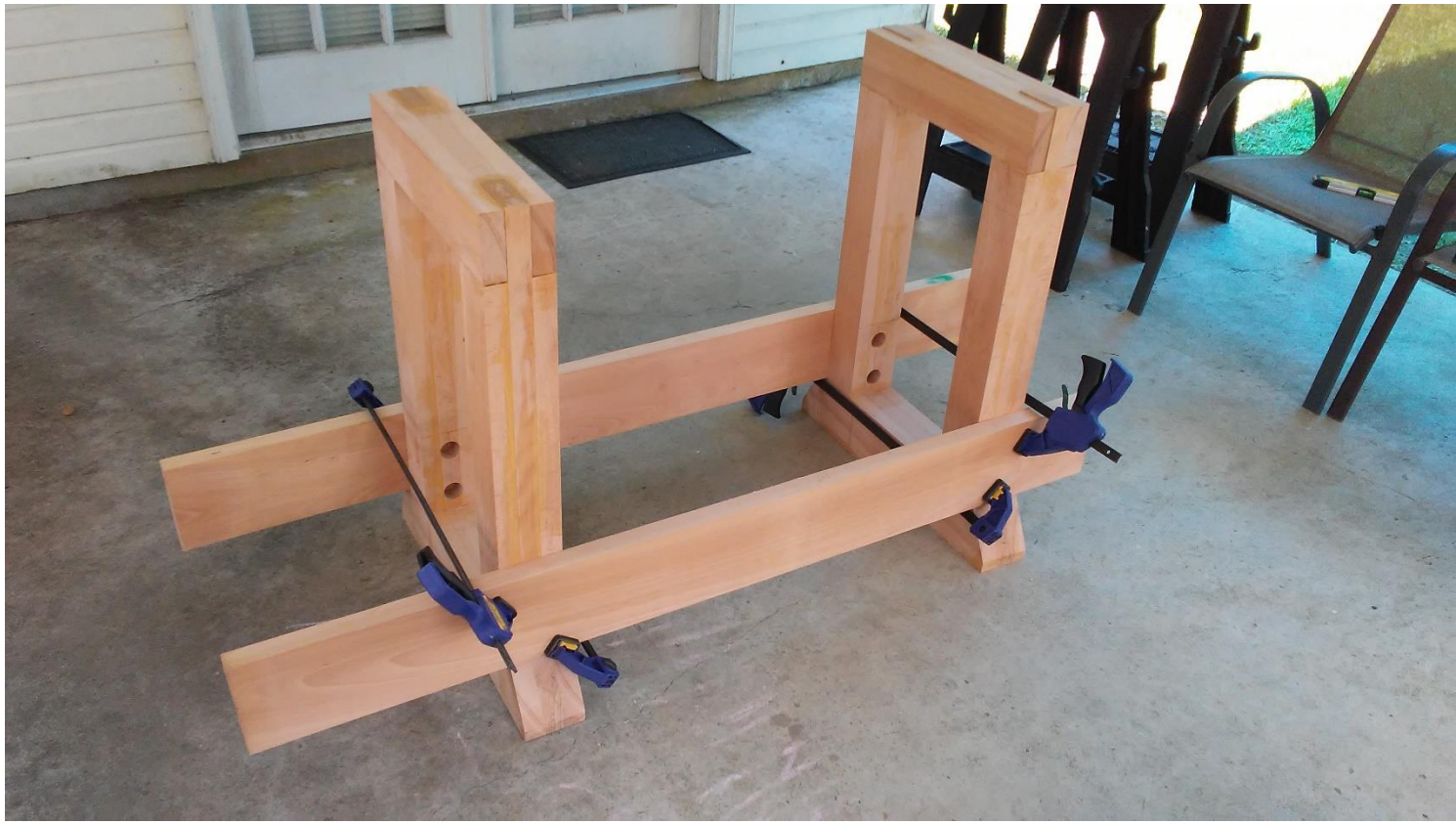
Addendum

- Drill bolt holes in legs.
- Pre-drilled smaller holes to make Forstner bit drill easier.



Attach Cross Beams

- Clamp the beams to git the “fit” just right.
- Drill starter holes through cross-beams using the thru-holes in legs as guides.
- Then test fit with stainless steel bolts…

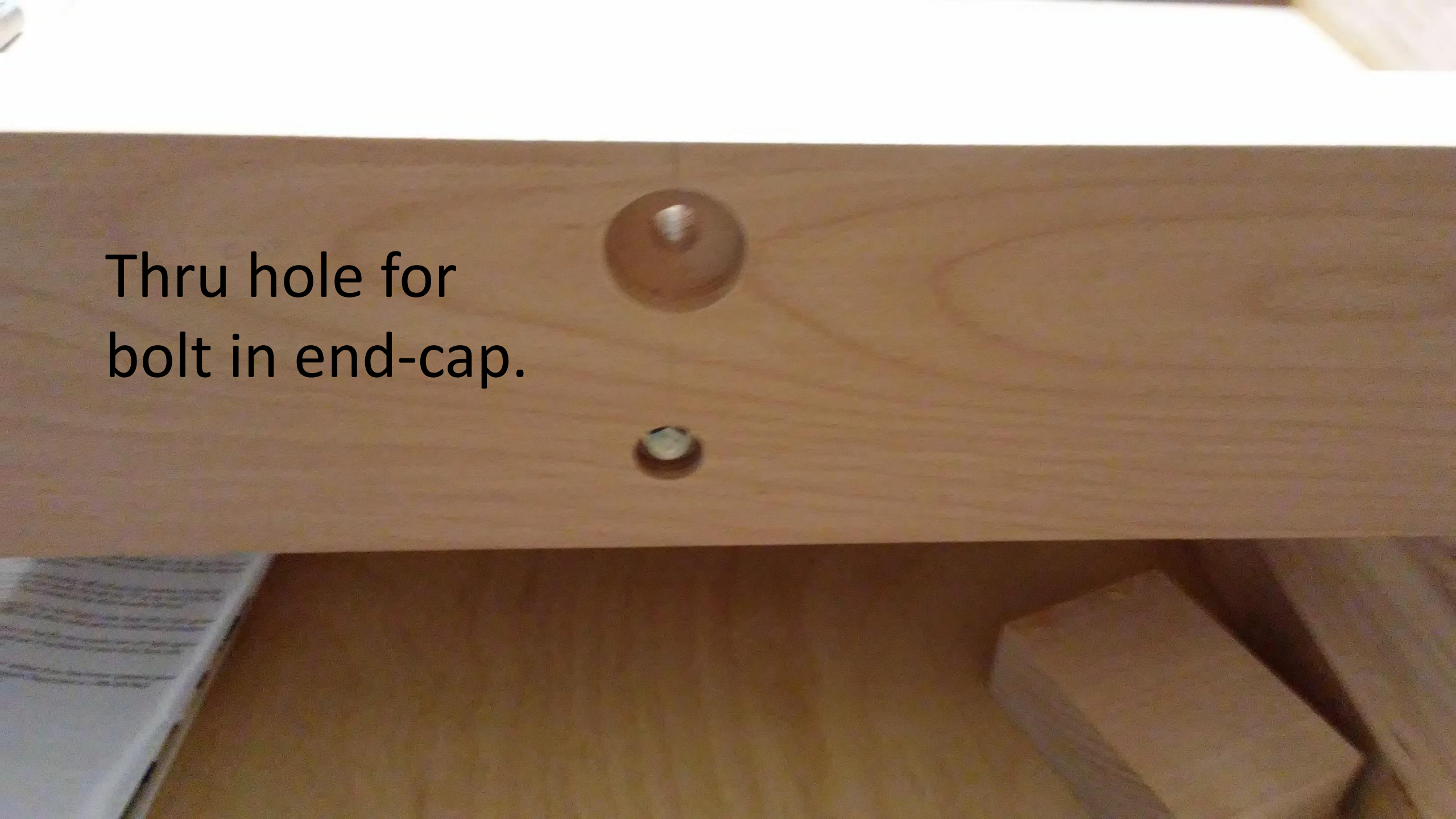



Cut cross-beams
to length

The Base

- Legs are about ready.
- Put centering dowel in one of the legs.
- Put thru-hole for attaching one pair of legs to end-cap.
- Make a test fit with thru bolts.


Test Base fit with
dowel and end-cap
thru-bolt

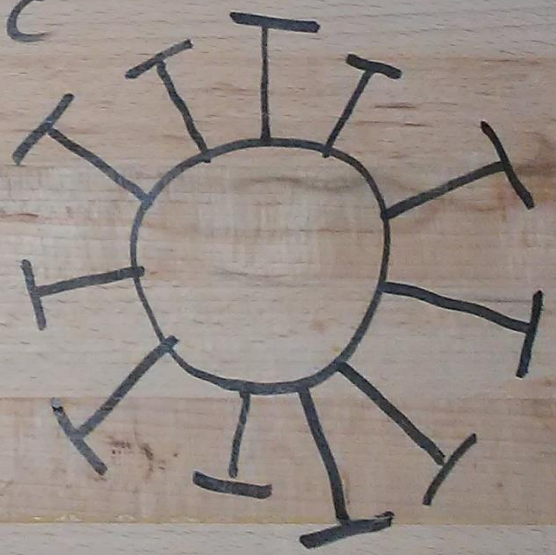

Thru hole for
bolt in end-cap.

Paint the Base!

Top: Euro Beech
Base: Euro Beech (black)

Finished: September 2020

Built during the
COVID-19
Pandemic



by Shawn
W.
WALKER

Errr... mostly
finished...

Getting Closer

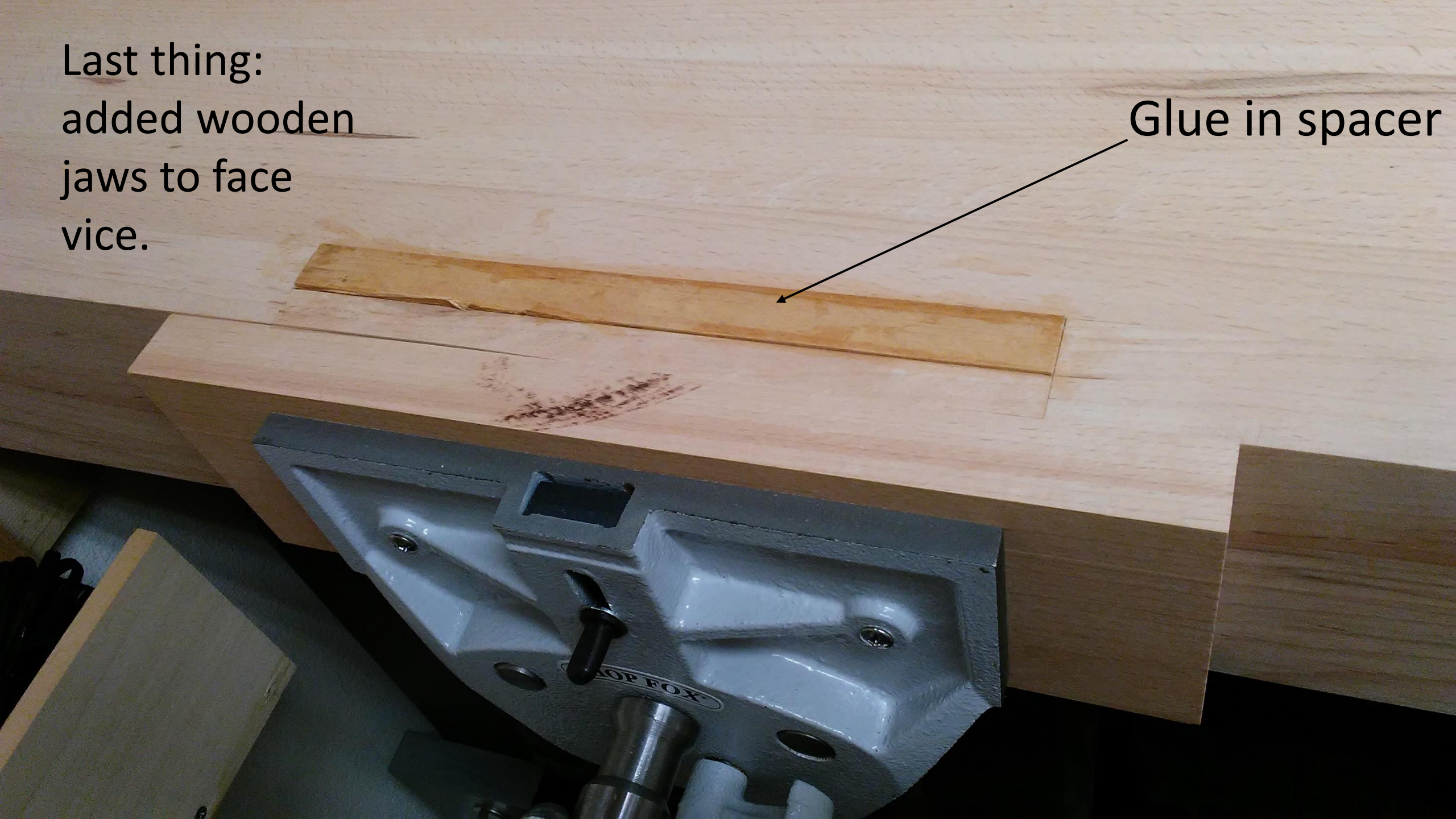
- I flipped the top onto the base (with help from Kesh!).

Flatten the Top

- Still needed to flatten the top…
- #5 hand-plane from Jackie Parker.
- There were **a lot more** shavings than pictured here!
- After planning, used the random-orbit sander.


After a long time…
Some nice plywood shelves
DEWALT

After clean-up


Last thing:
added wooden
jaws to face
vice.
Glue in spacer

Sand it flat!

Next time, buy a pre-made flat top!!!!