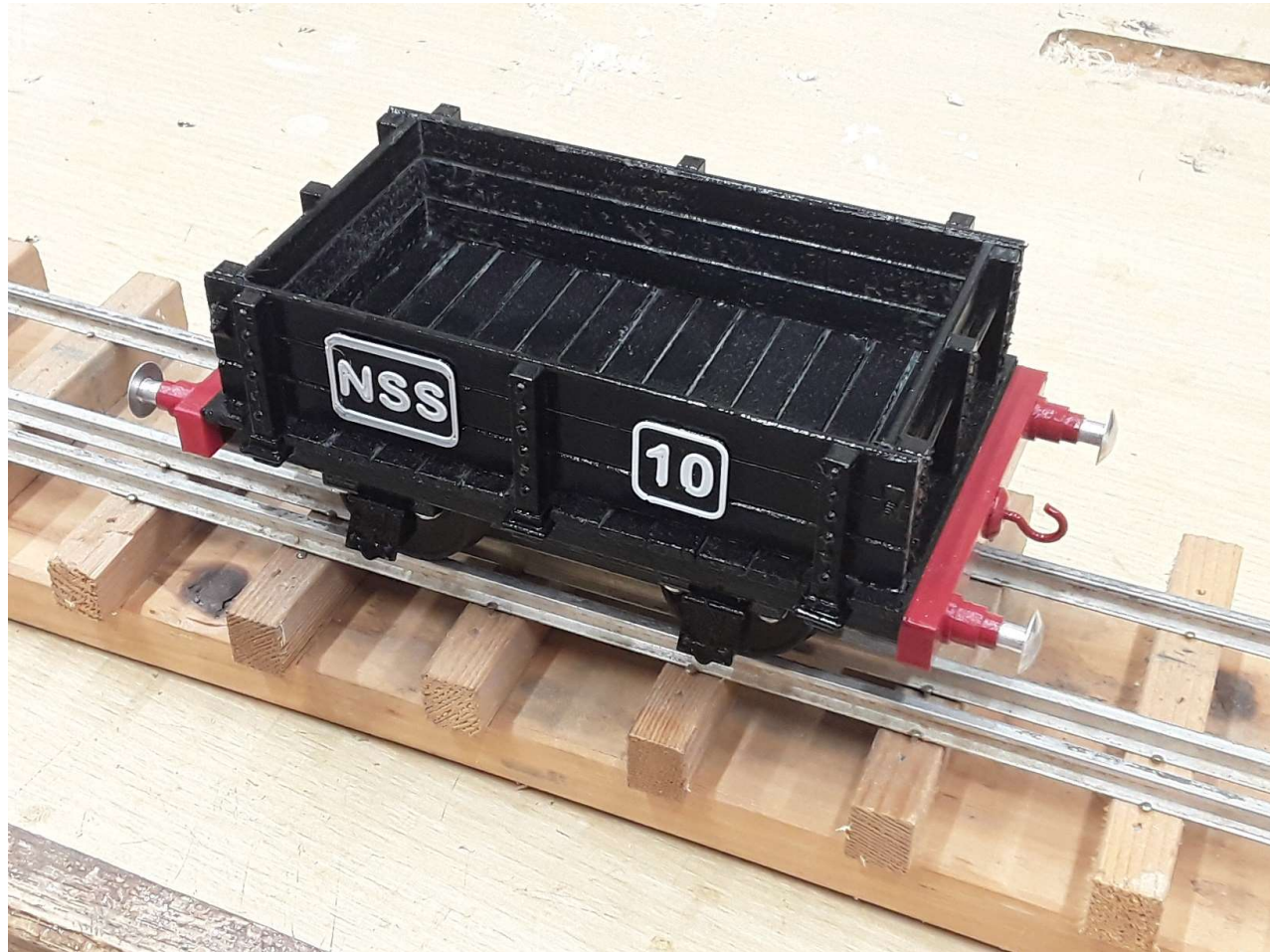


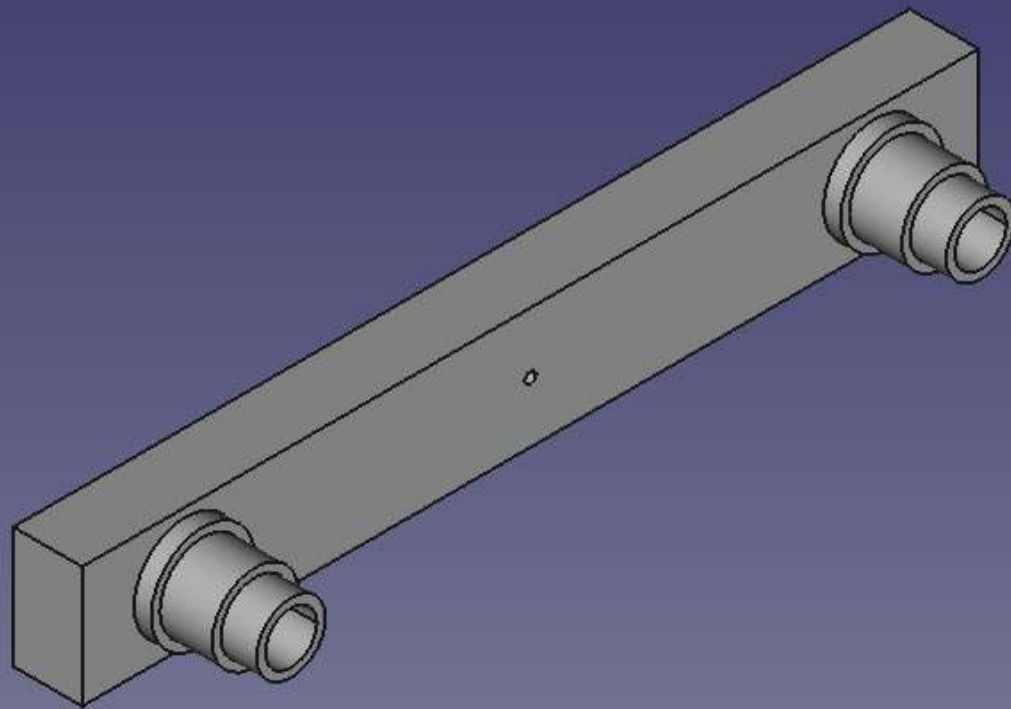
Mass Production of Rolling Stock



Objectives

1. Fabricate 15 gondola cars
2. Use 3D printed parts and wood
3. Demonstrate fixtures
4. Demonstrate assembly jigs
5. Cut scale lumber (Previous Clinic)
6. Order of Operations

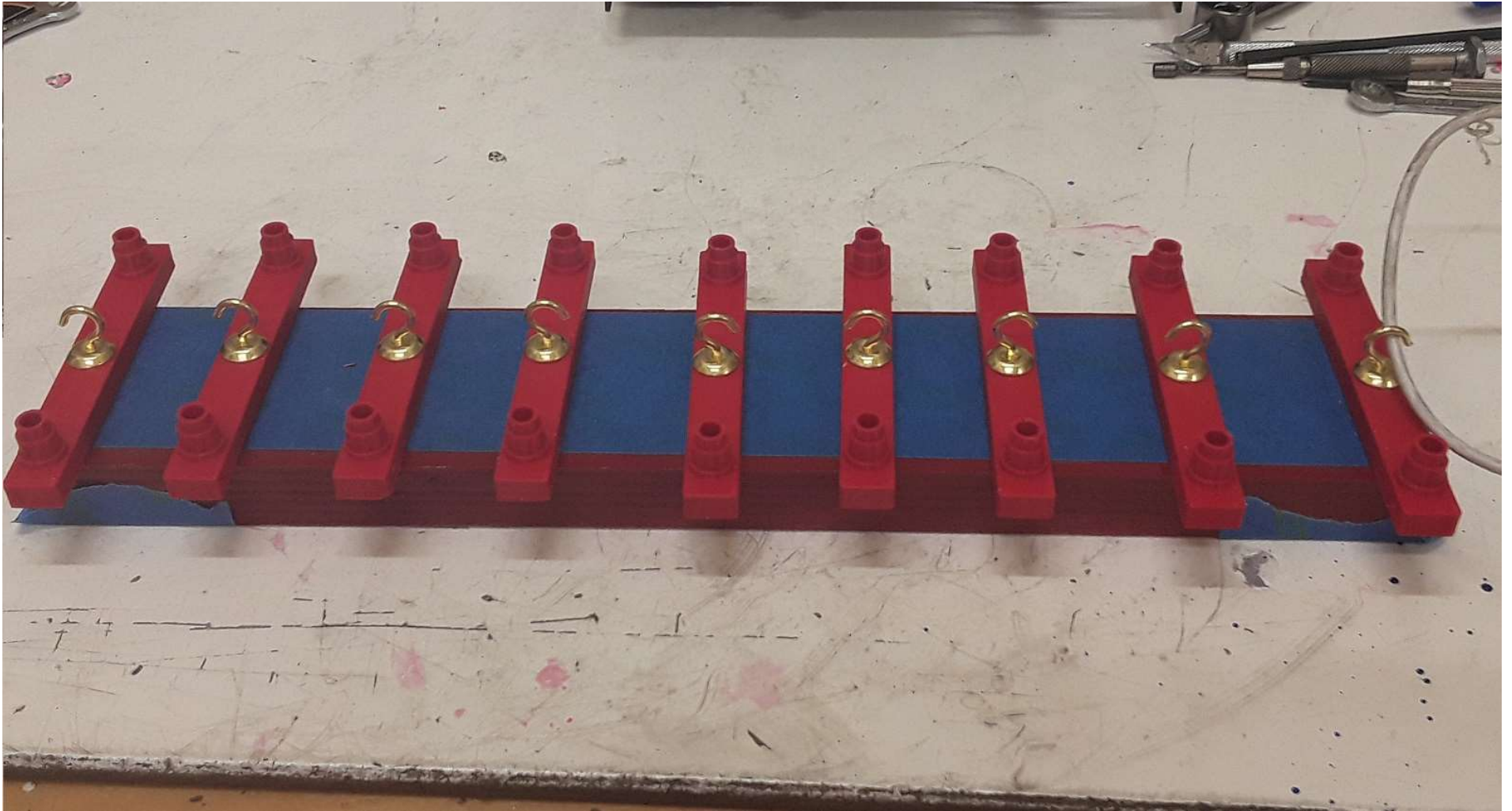
End Beams



End Beams



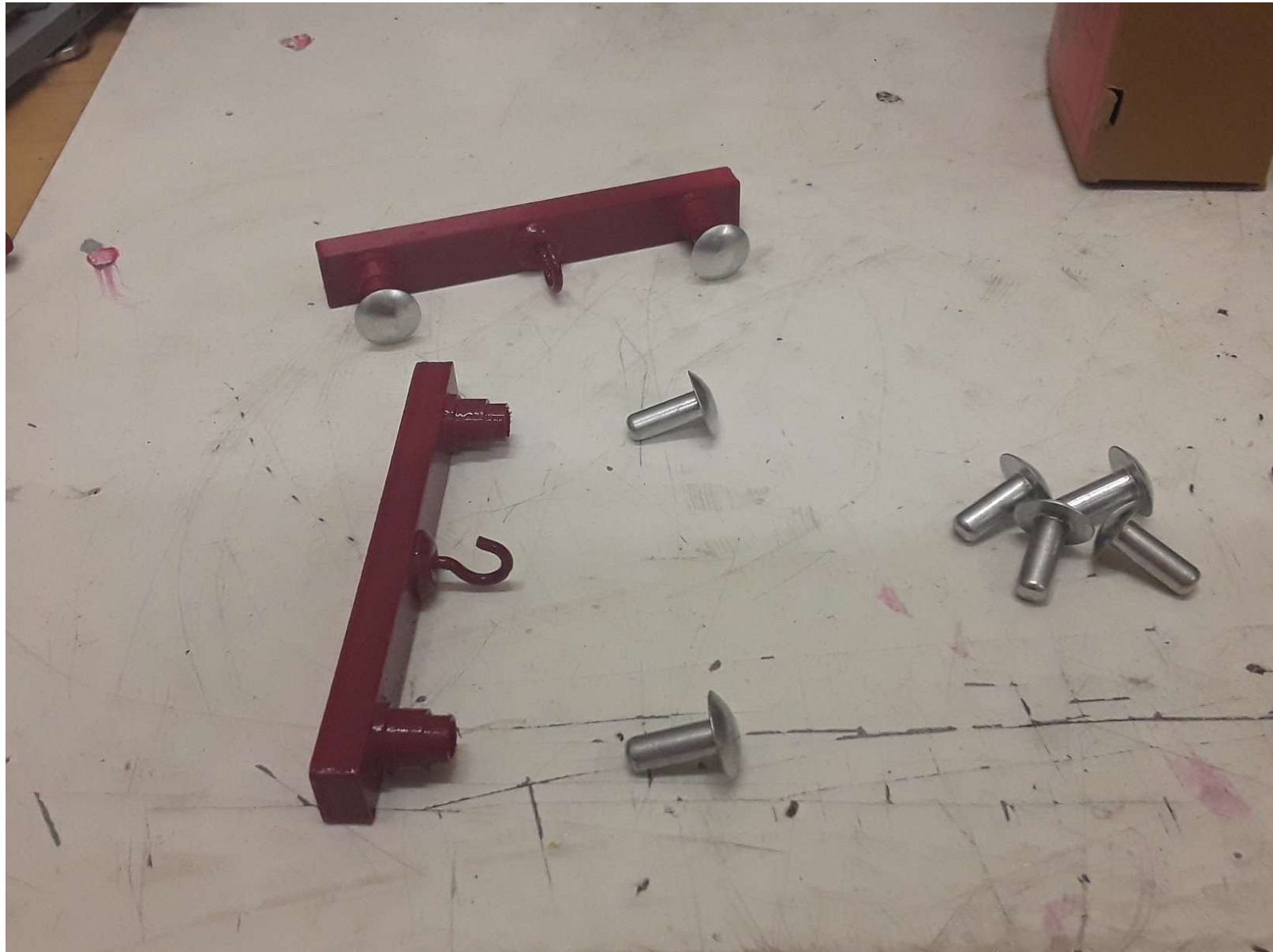
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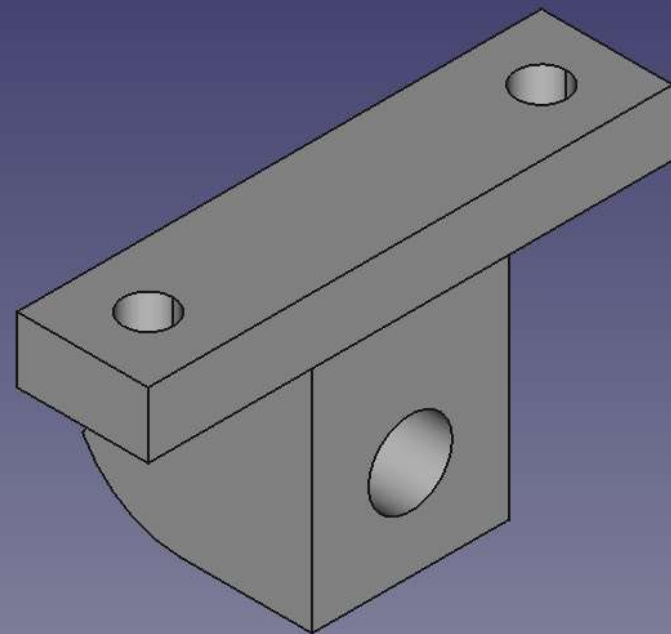
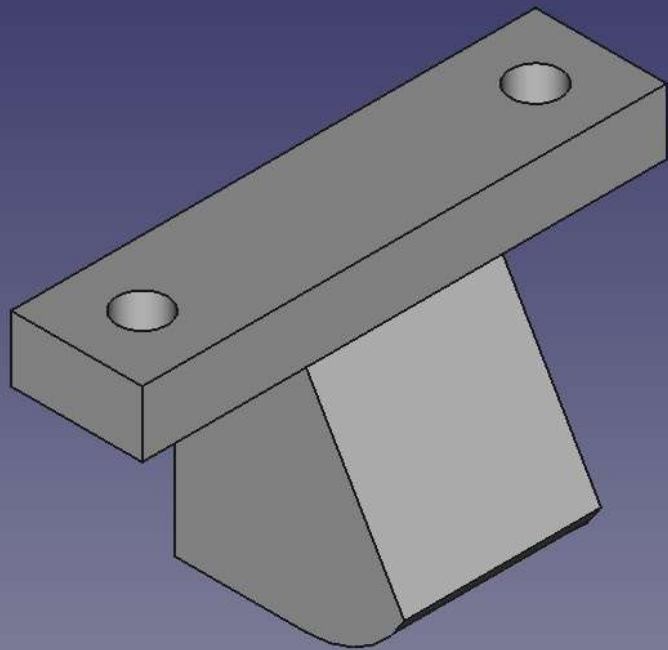
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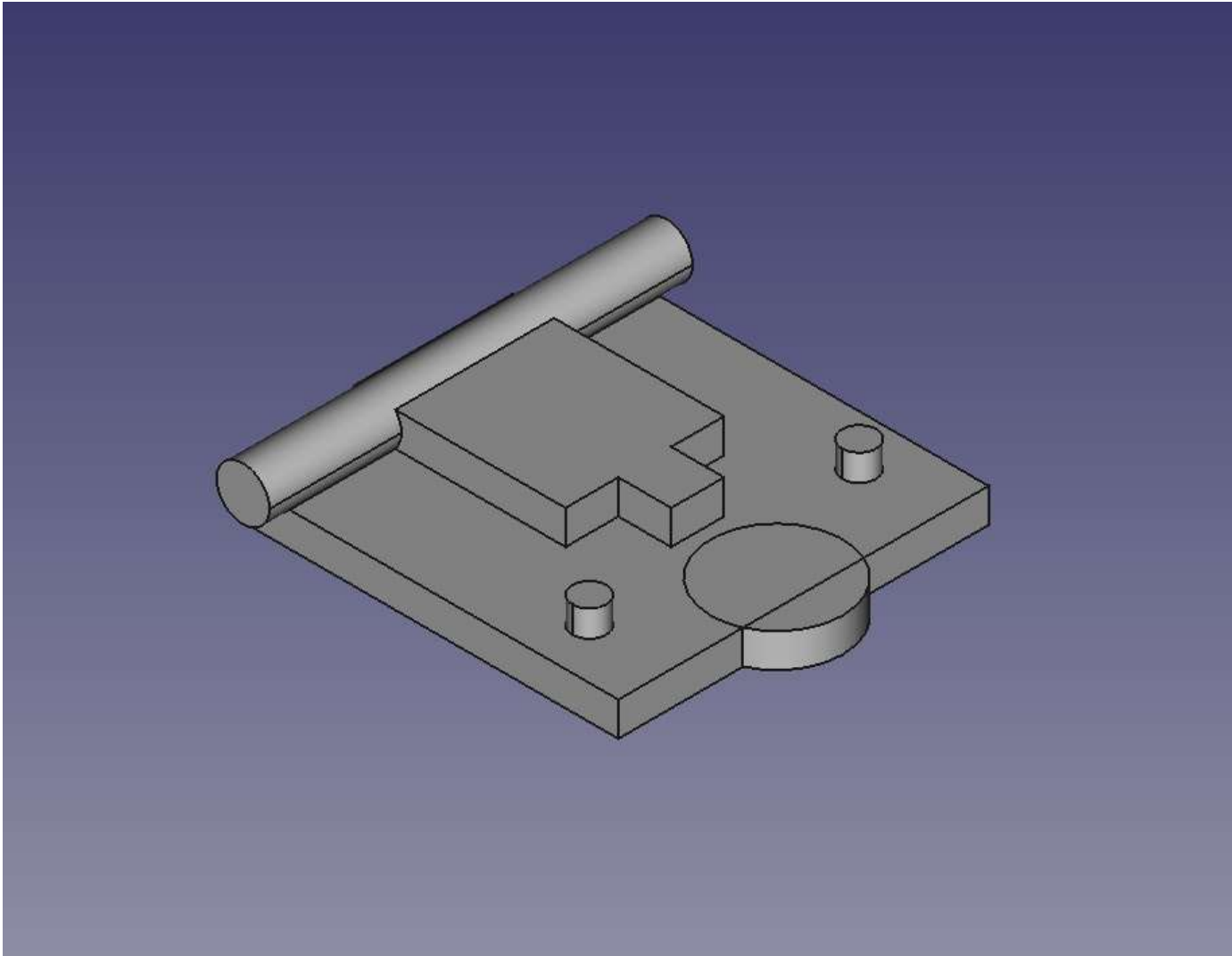
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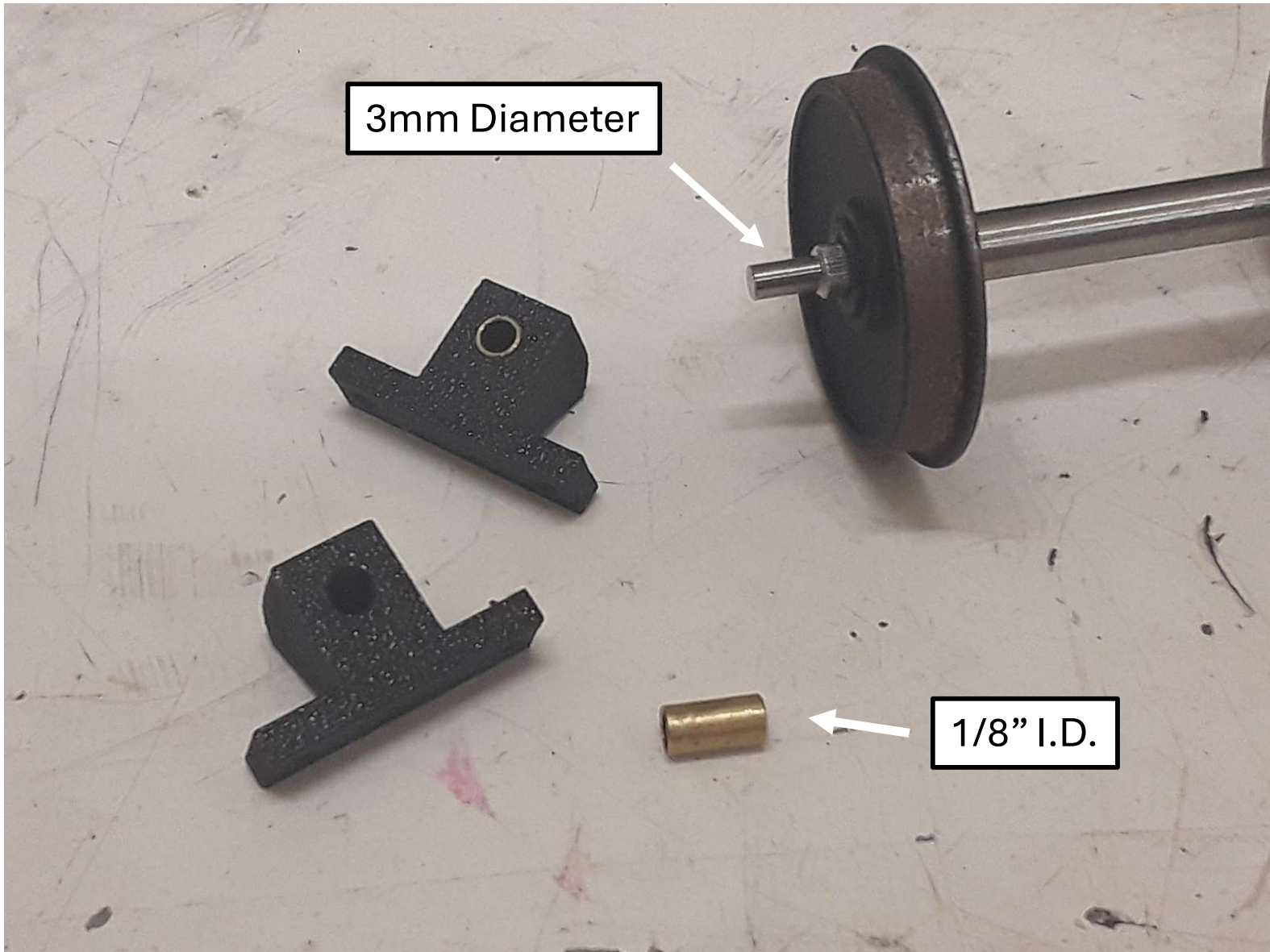
Journals



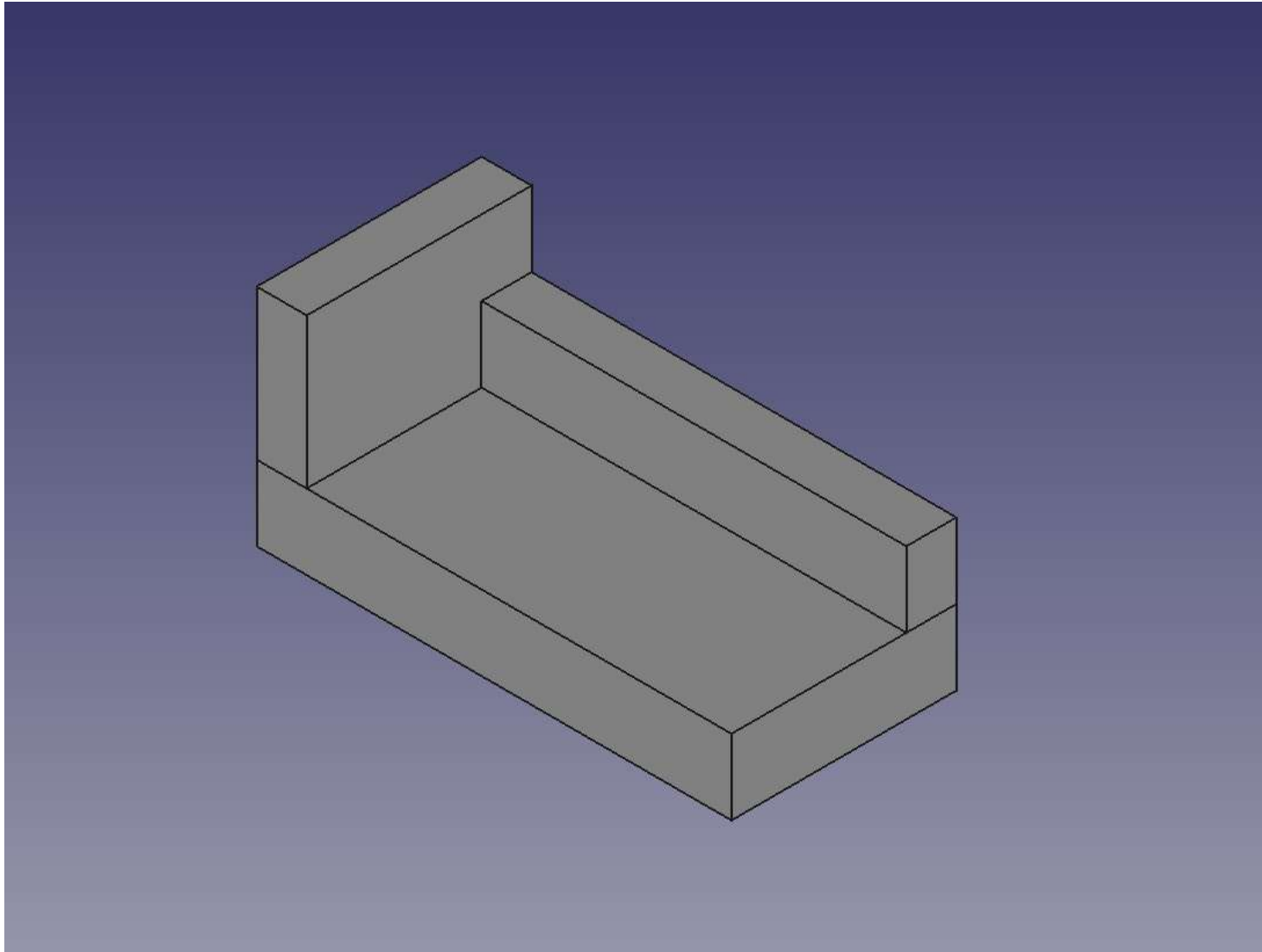
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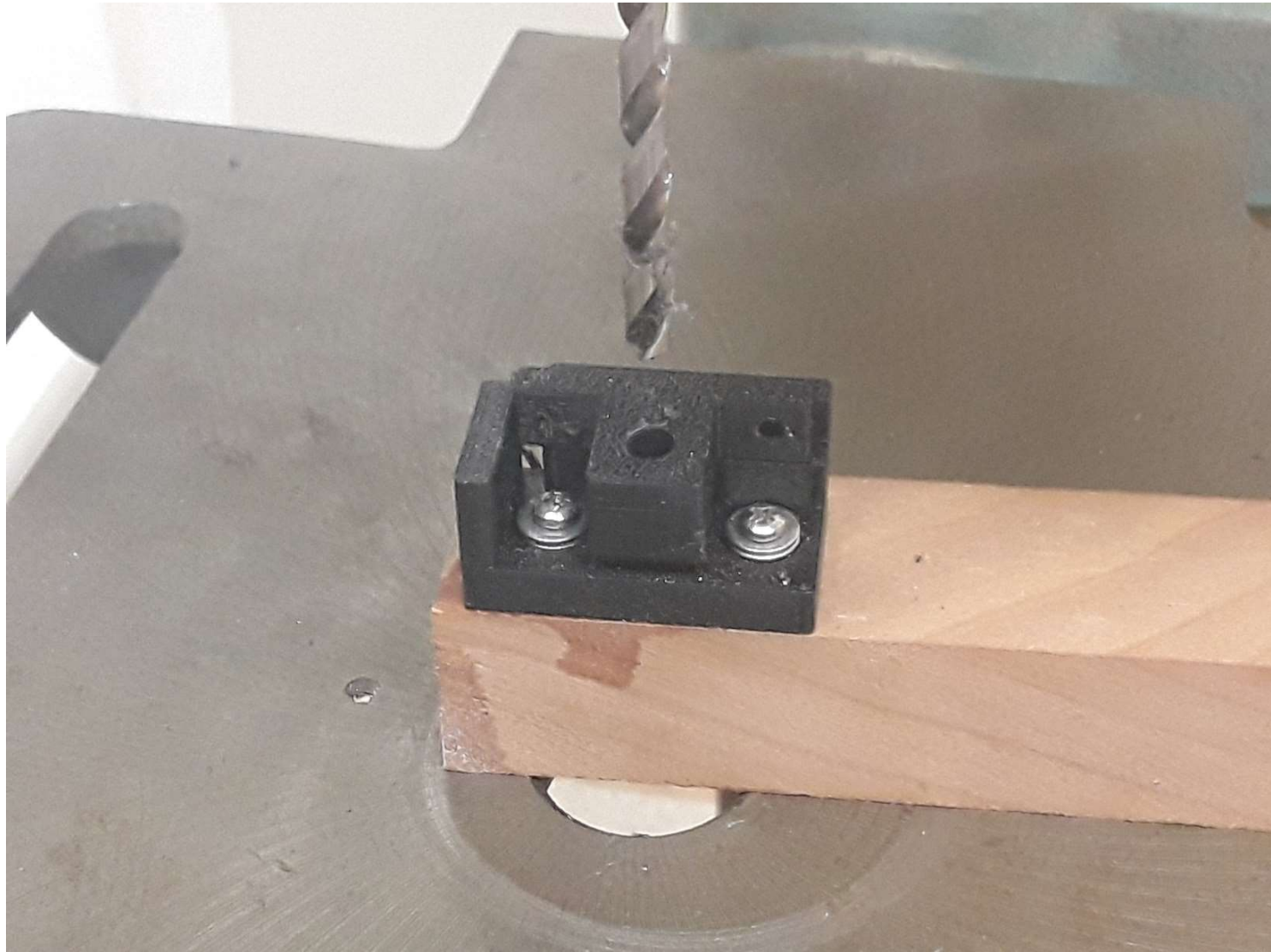
Journals



Journals



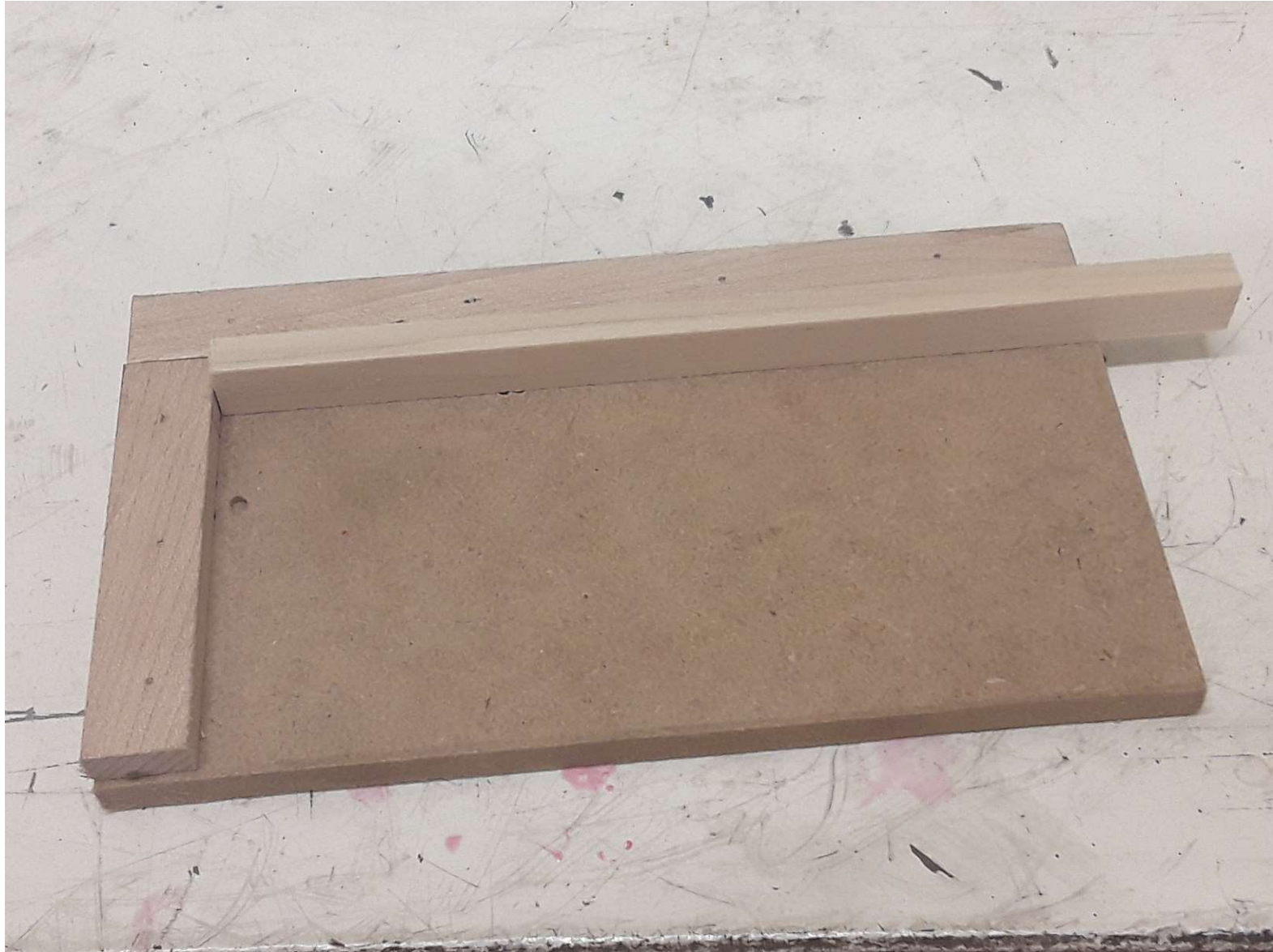
Journals



Frame Sides



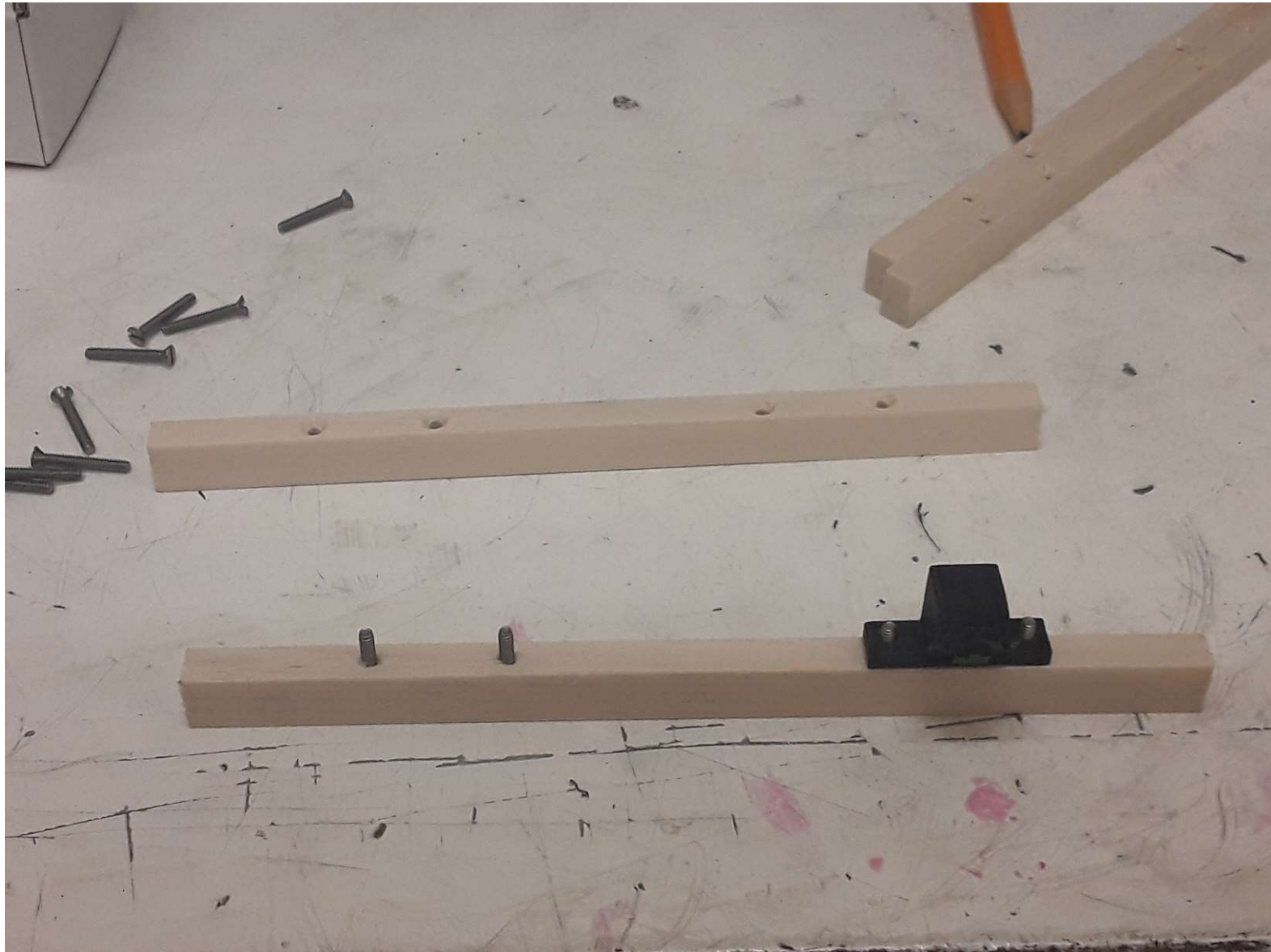
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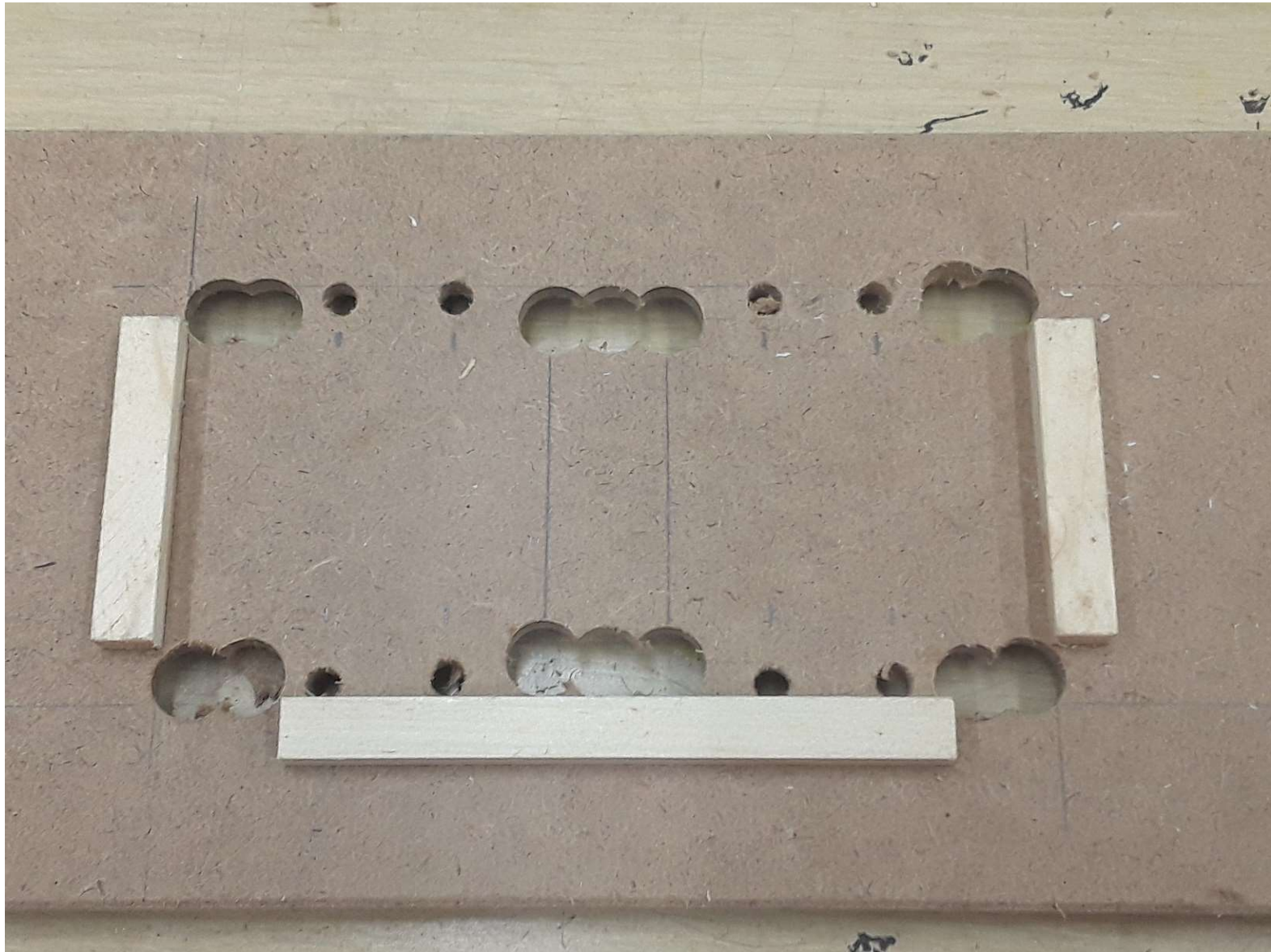
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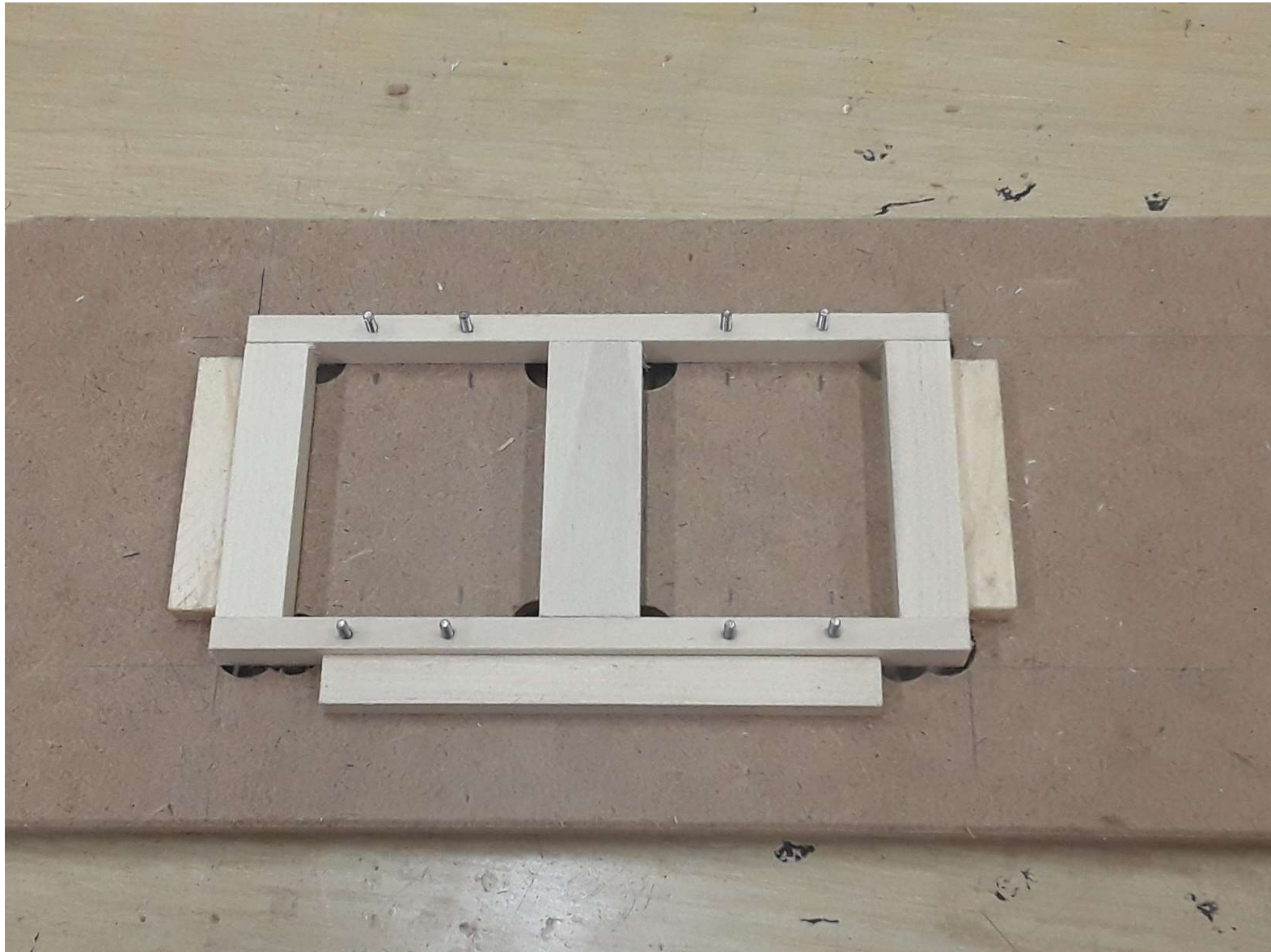
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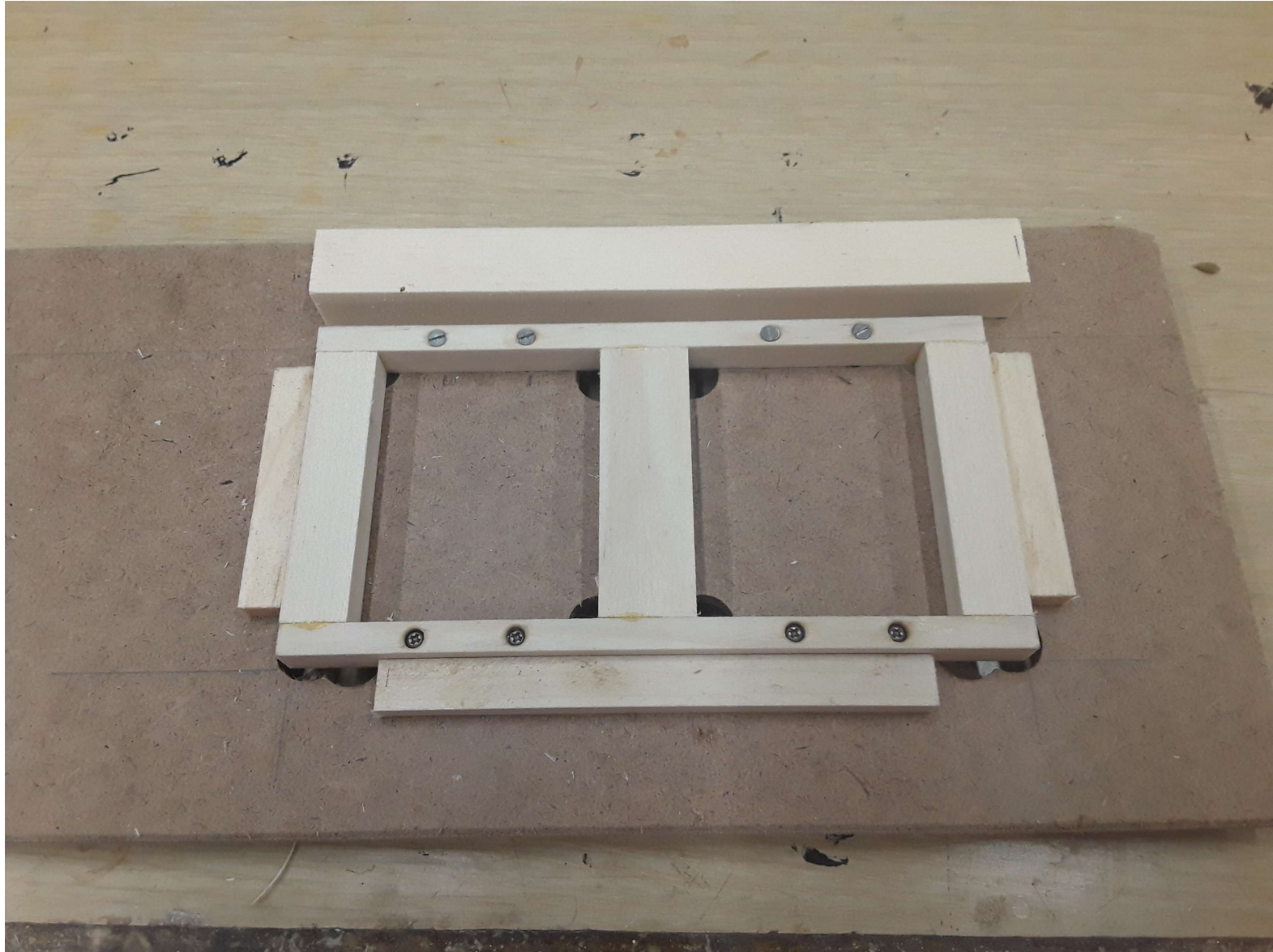
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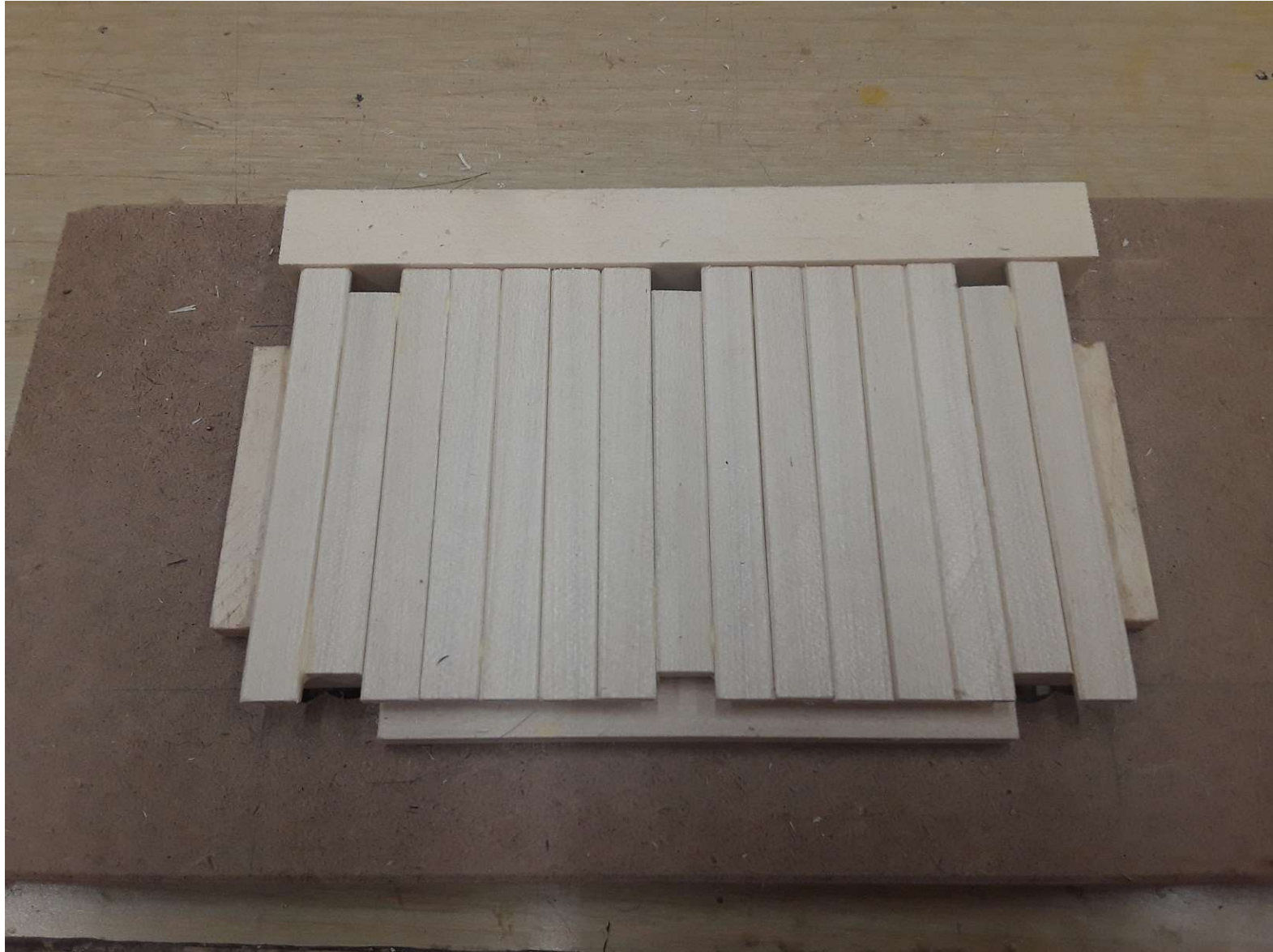
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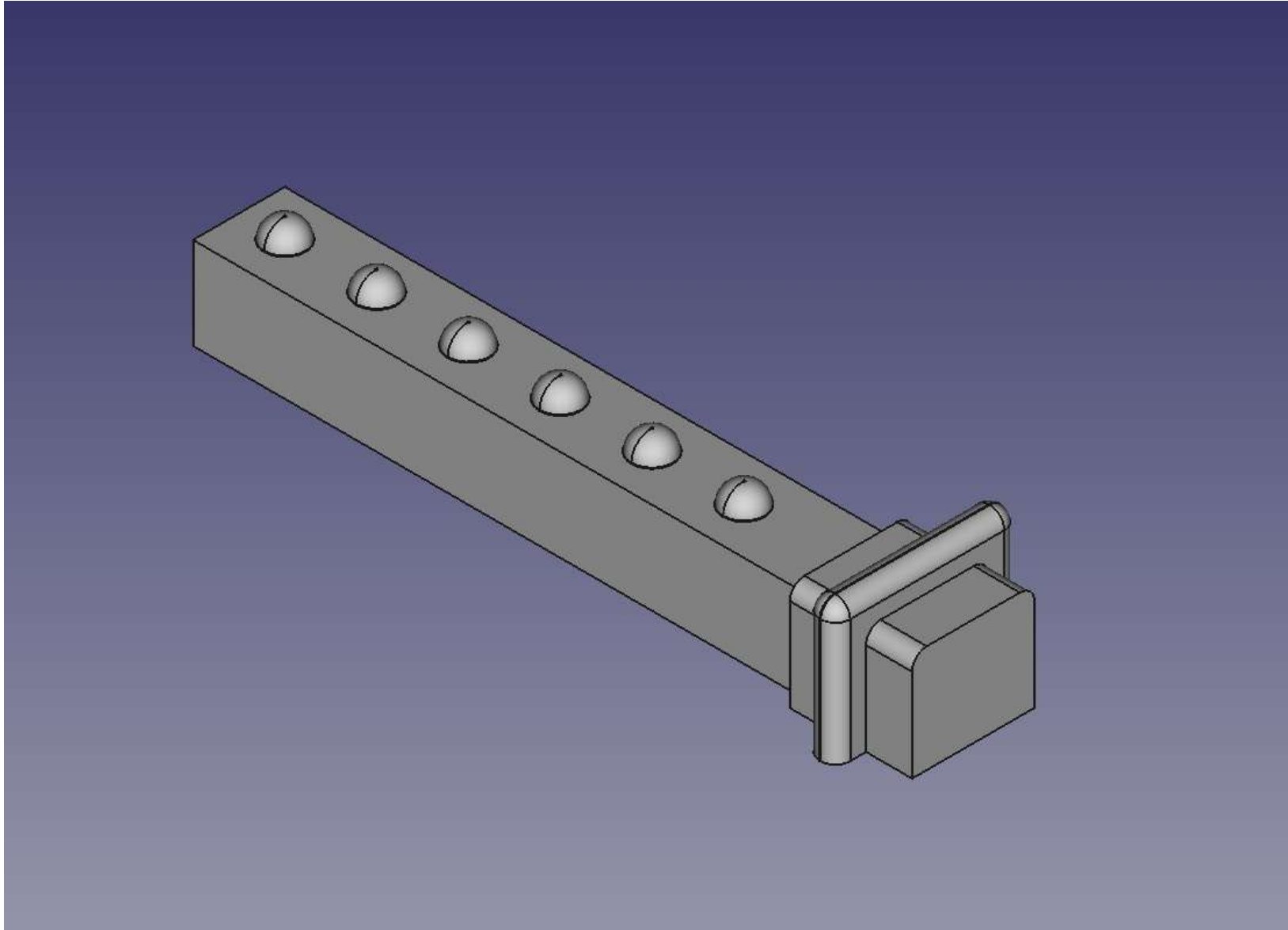
Frame Assembly



Frame Assembly



Body Sides



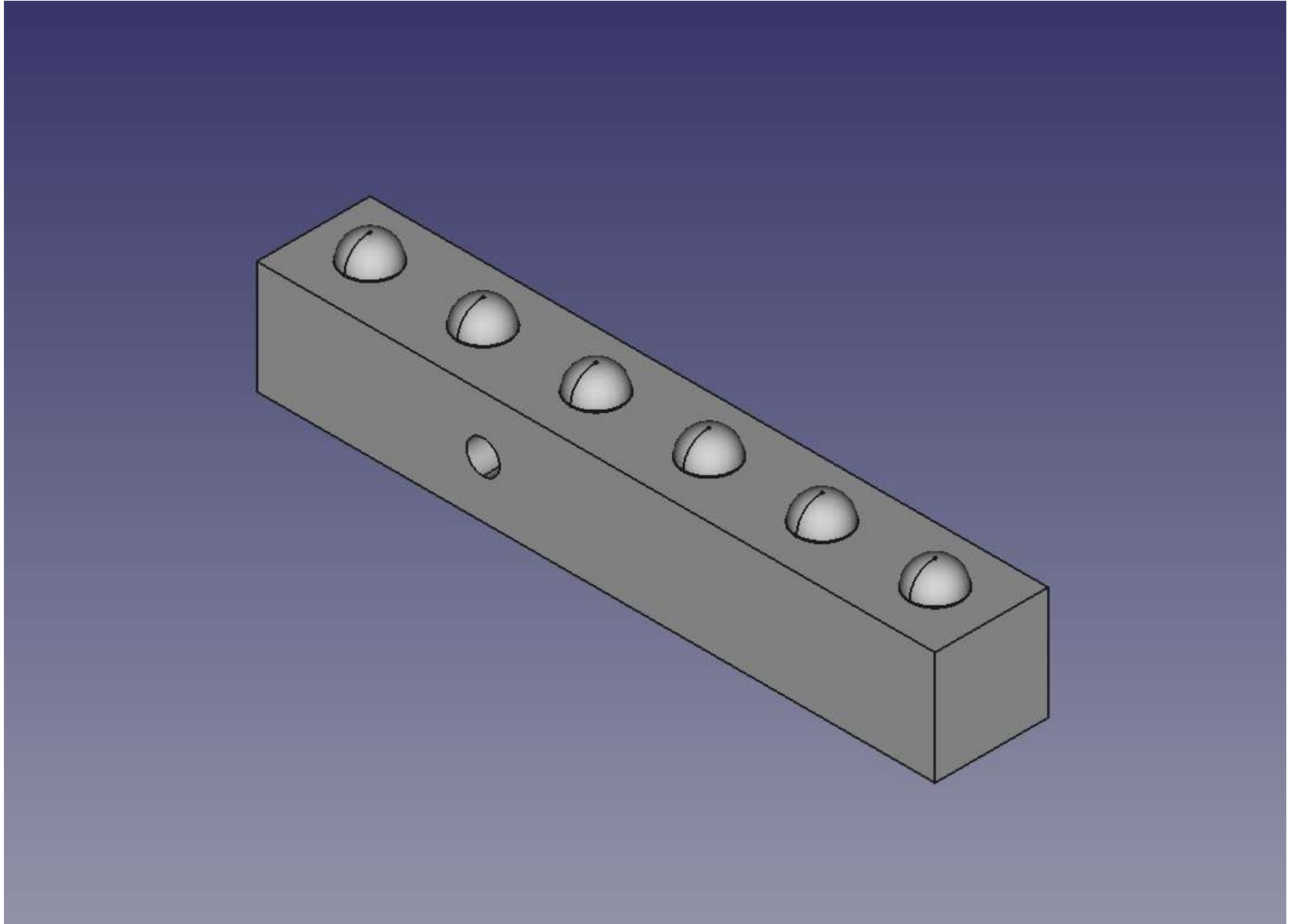
Body Sides



Body Sides



Body Ends



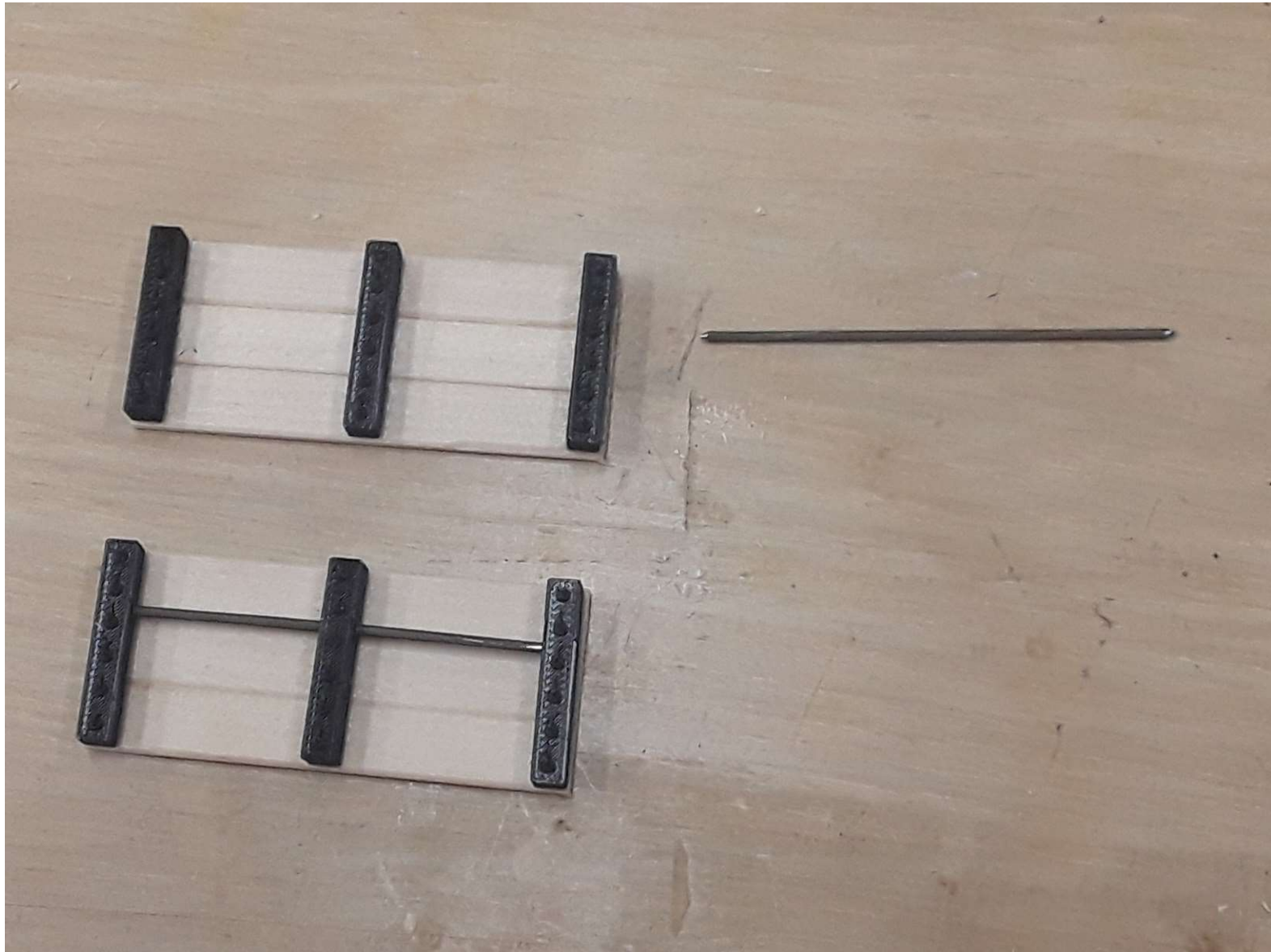
Body Ends



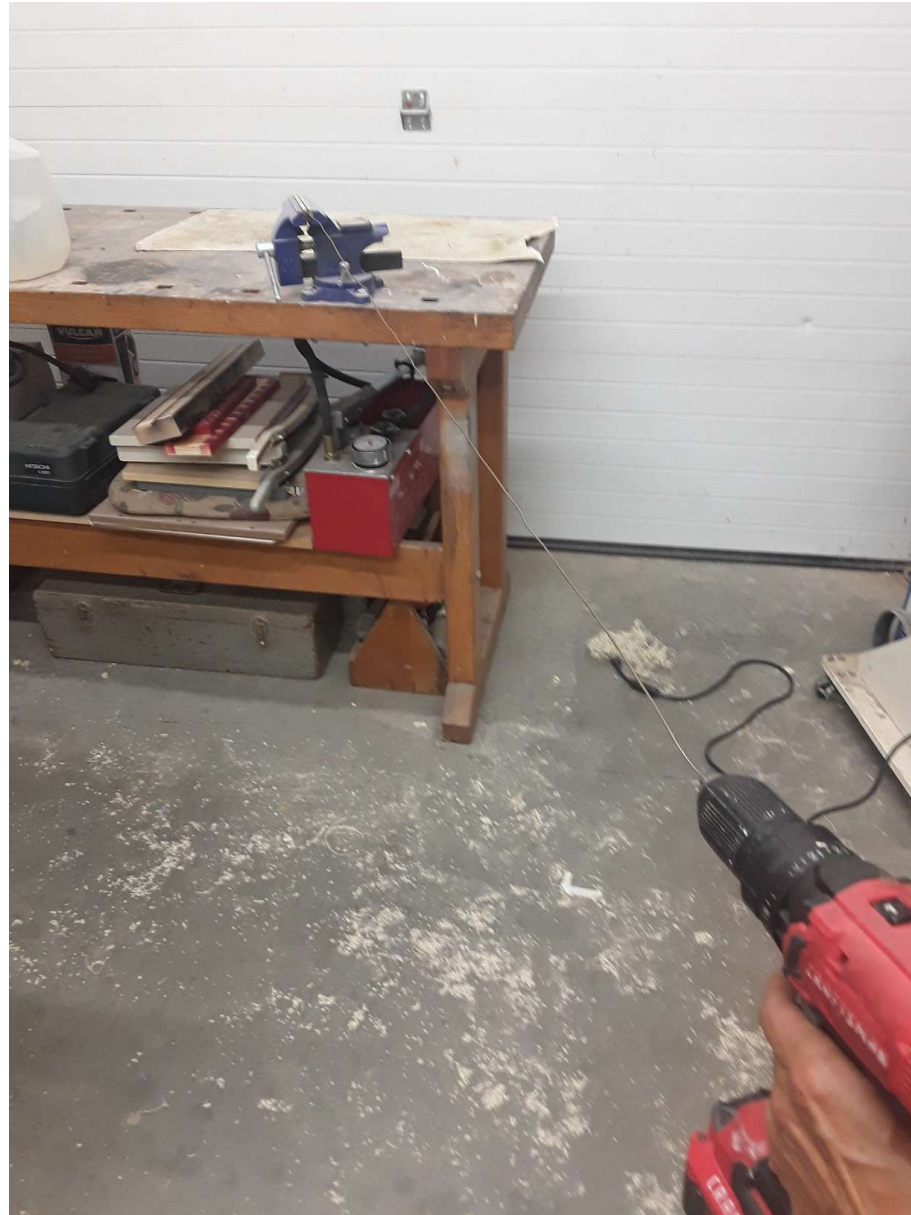
Body Ends



Body Ends



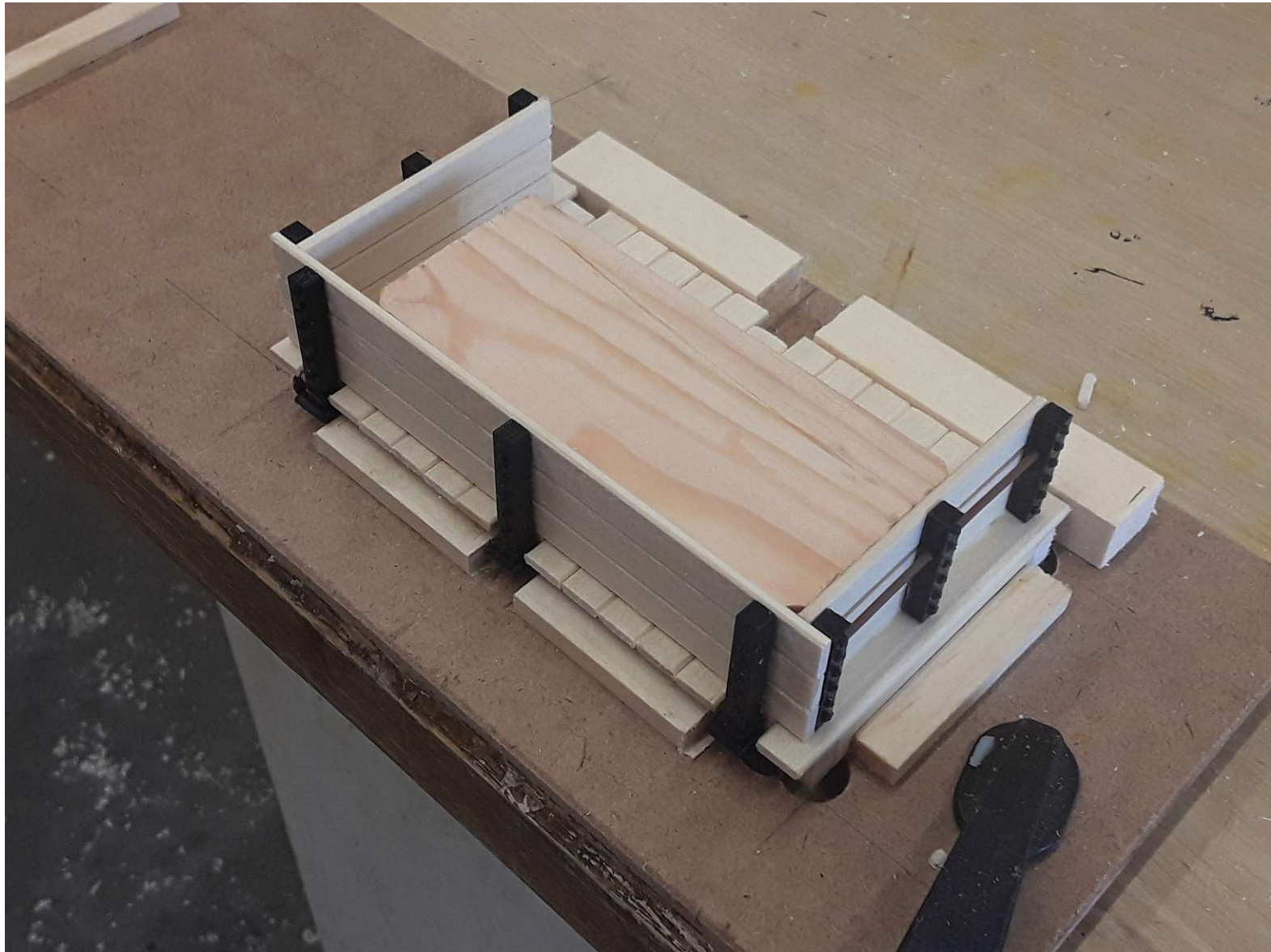
Body Ends



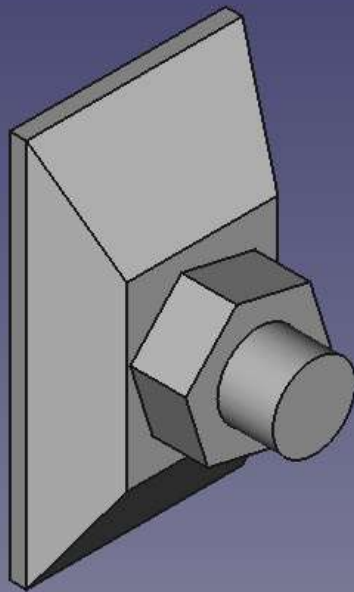
Body Panels



Assembly



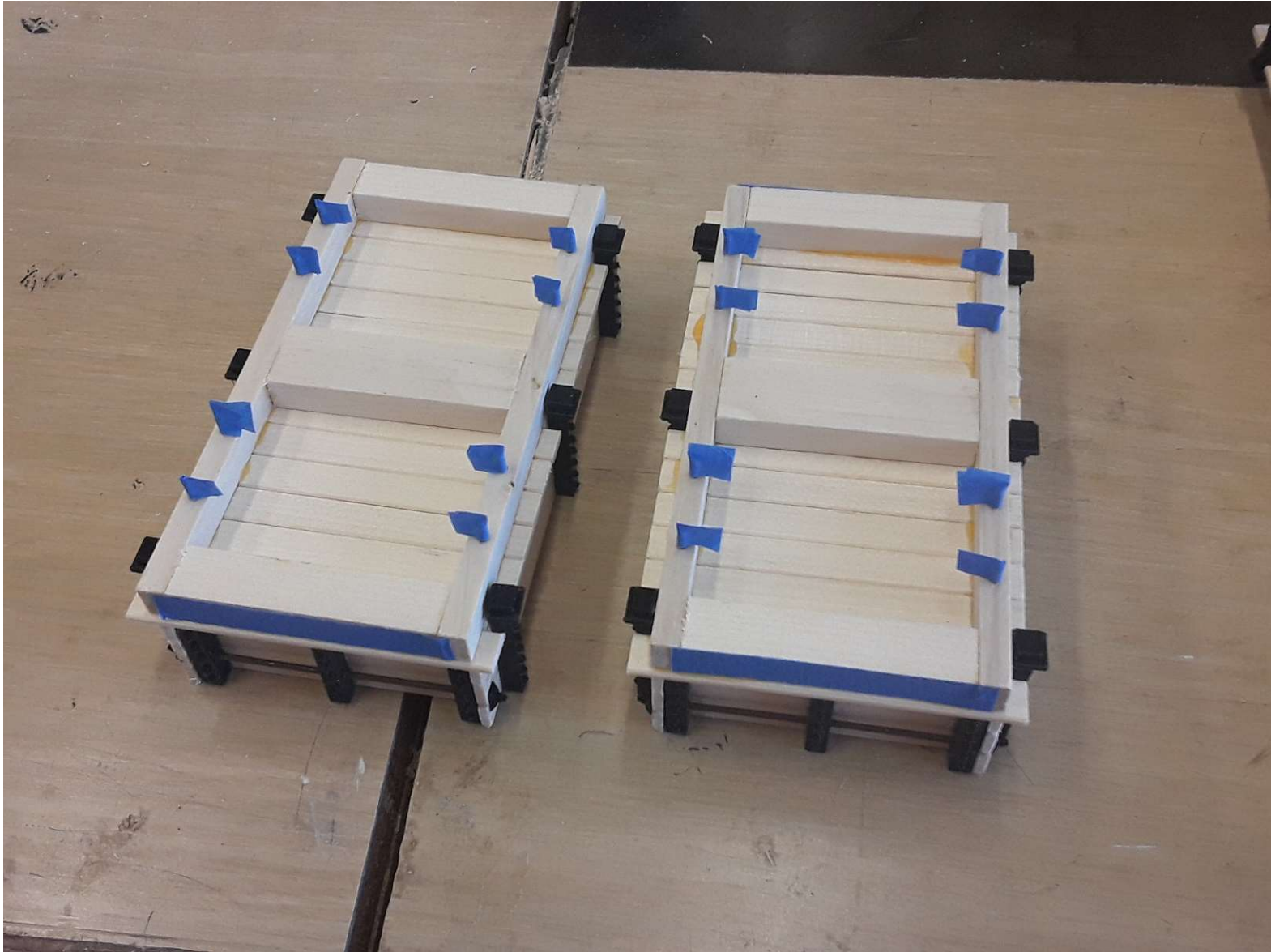
Assembly



Assembly



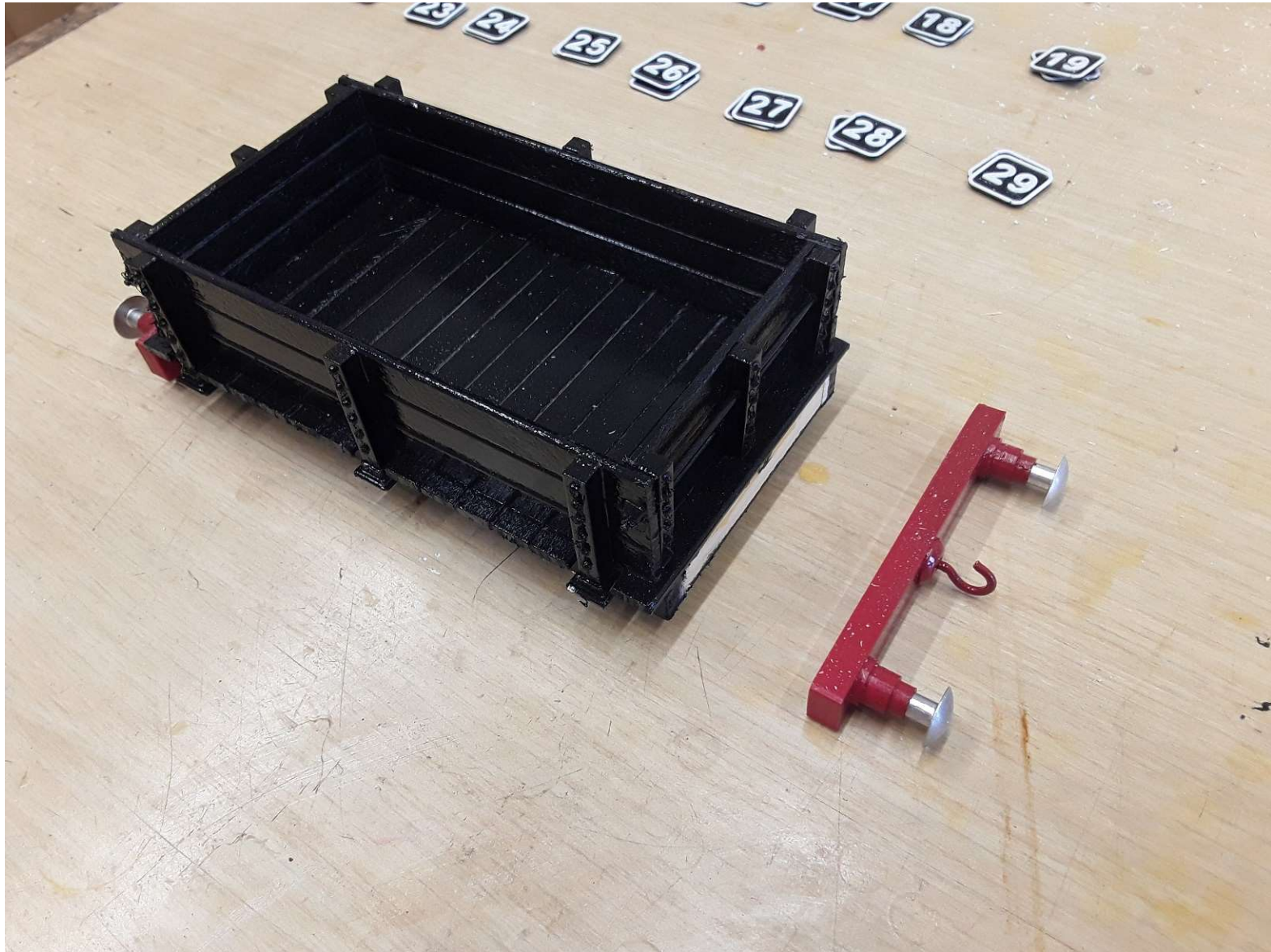
Paint



Paint



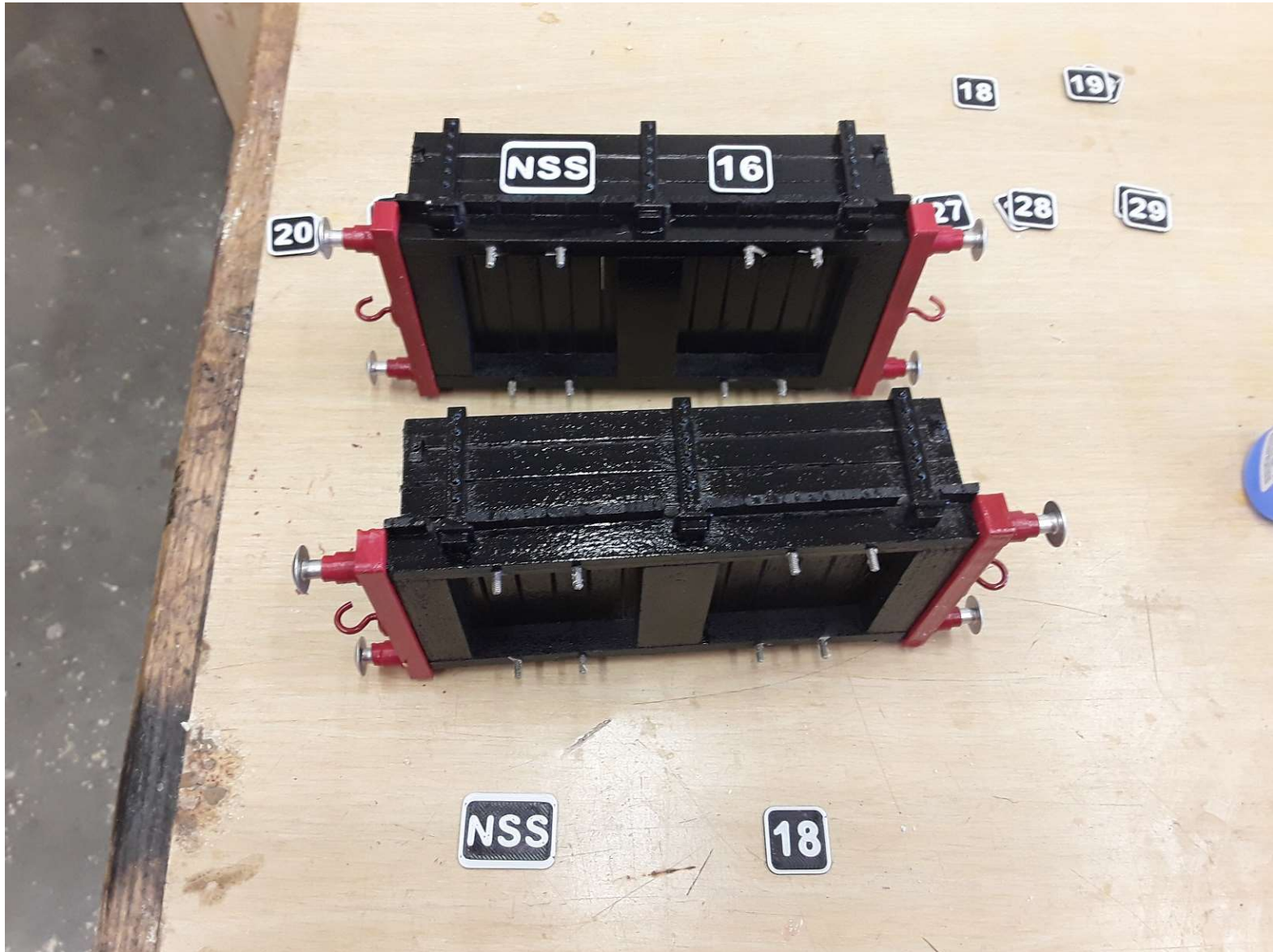
Final Assembly



Final Assembly



Final Assembly



Final Assembly



Questions?

