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A Design for a Lumber Rack

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For some time a pile of Boekenhout planks has sat on the floor of my workshop. To start with, the pile suggested hall stand, then a hall table, but lately, it has been mute, just stubbornly getting in the way. If you have seen my workshop, you will know there is not an overabundance of space. This was recently reduced by the addition of a bandsaw, so I needed to do something about those planks.

I have needed a proper place to store wood for some time now, so this was a good time build some shelves. I decided to make a simple freestanding rack for storing planks. It was to be cheap and quick to build. I settled on rough gum planks, that I nailed together in a day.

The planks I used are left overs from sawmilling, being rounded on one side. They are 110mm wide with a maximum thickness of 30mm. I used 2.4 m lengths. They vary somewhat in thickness, so I used the thicker, better planks for the uprights and cross pieces, and the thinner for the slats. I used about 20 planks for which I paid R10- each. The rack will hold more than 2 m^3 of wood depending how you stack the wood. The open construction allows easy access to the wood and air circulation for drying when required.

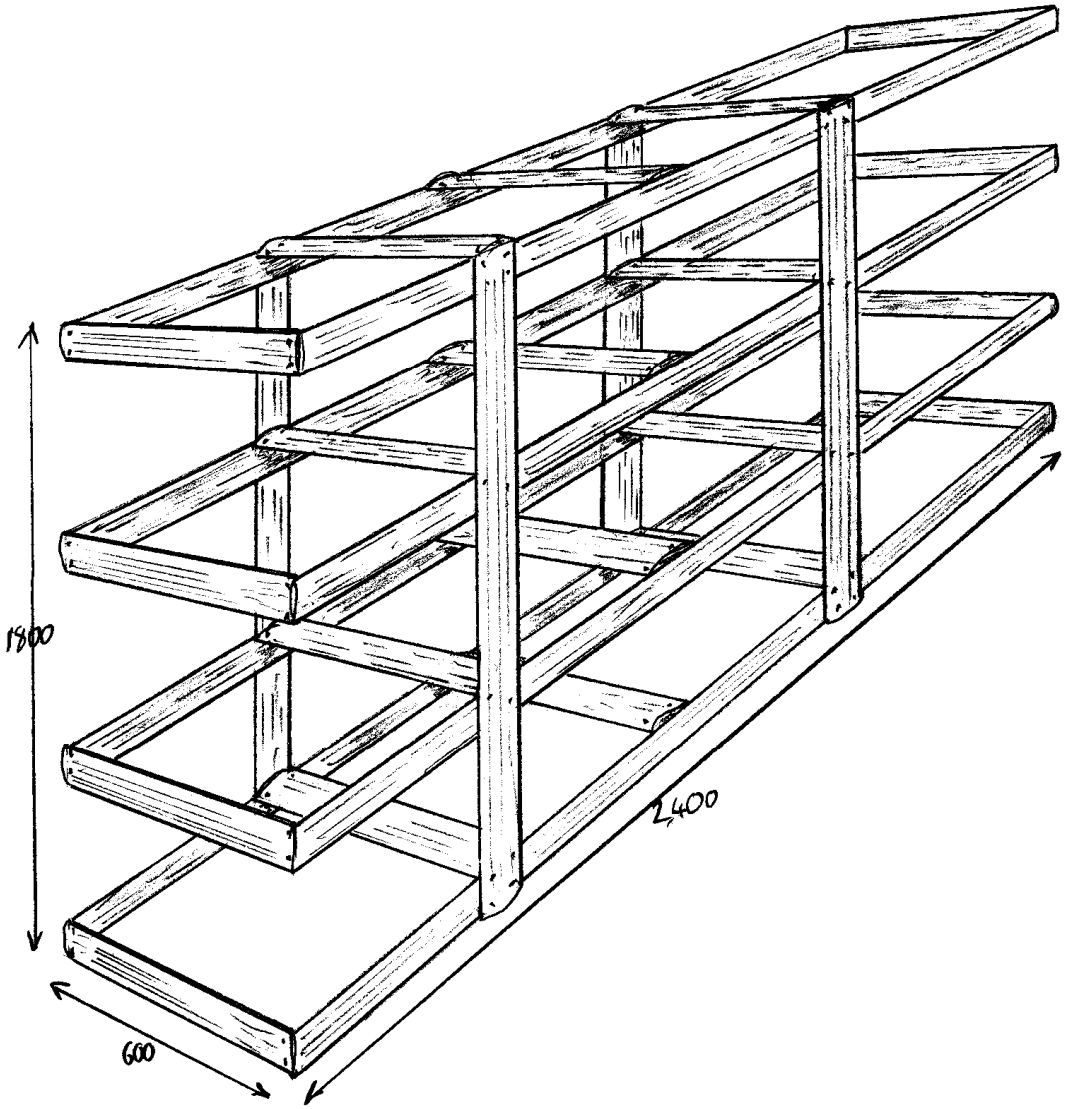
The diagram below shows the size and construction of the rack. I selected a length of 2.4 m to fit into the space available. Most wood for furniture making comes in sizes less than 2.4 m length. I set the height of the top level at 1.8m, because of space constraints. Also trying to stack and unstuck planks at heights much above this is rather slow and tiring. I picked a width of 600mm because it is difficult to reach in more than that distance when moving heavy planks. Hence the rack is 2.4 m long, 1.8m high and 600mm wide. These were also convenient sizes to make best use of the 2.4m rounded gum planks I bought – the uprights were cut from a 2.4 m plank, leaving 600mm for a cross piece. The eight longitudinal cross pieces were made from single 2.4m lengths.

The whole thing is nailed together with 60mm nails. I predrilled all the nail holes with a 2.5 mm drill. Good quality gum is very hard and dense, and even with the predrilled nail holes, I bent more nails than I would care to admit. This did improve with practice, but my pry (crow) bar received some use. Due to the hardness of gum, pulling out nails with a conventional claw hammer was difficult, as the handle doesn't have enough leverage, so the short claw foot on my wrecking bar or crow bar was a great help to pull out the bent nails.

I hammered together the sides first, laying them out separately on the ground. I first knocked in only one nail at each joint, leaving the heads proud so that they could be easily removed. Once the sides were square, I hammered in the remaining nails, using at least two nails in each cross joint for strength and rigidity. (To check for squareness, I measured the diagonals.) When the sides were complete, I stood them upright and joined them with end pieces and slats between the horizontal members to support the wood. When I was sure that everything was square, I hammered the heads flush. The planks I used are 30mm thick at the most, so often 60mm nails through two thicknesses stuck out the back. I clenched over all those that stuck out, using a drift, so that no points remained tear flesh and clothes.

I used more cross slats than are shown in the drawing, as I had some spare. The drawing also doesn't show that the end pieces are nailed slightly higher, to line up with the cross slats, to form a relatively flat surface.

You may want to add one or more diagonal pieces for rigidity, at the expense of space. I thought my structure was rigid enough with just the horizontal cross-pieces. You will need to exercise your judgment here to ensure that the rack you make is stable and rigid enough to support the required weight of wood. A rack with the dimensions shown in the drawing can easily hold 2 m^3 of wood, which could be nearly 2 tons of wood when wet, so check that it is stable when complete and in-situ, adding any bracing you feel may be required.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