

Home-Made Plant Rack

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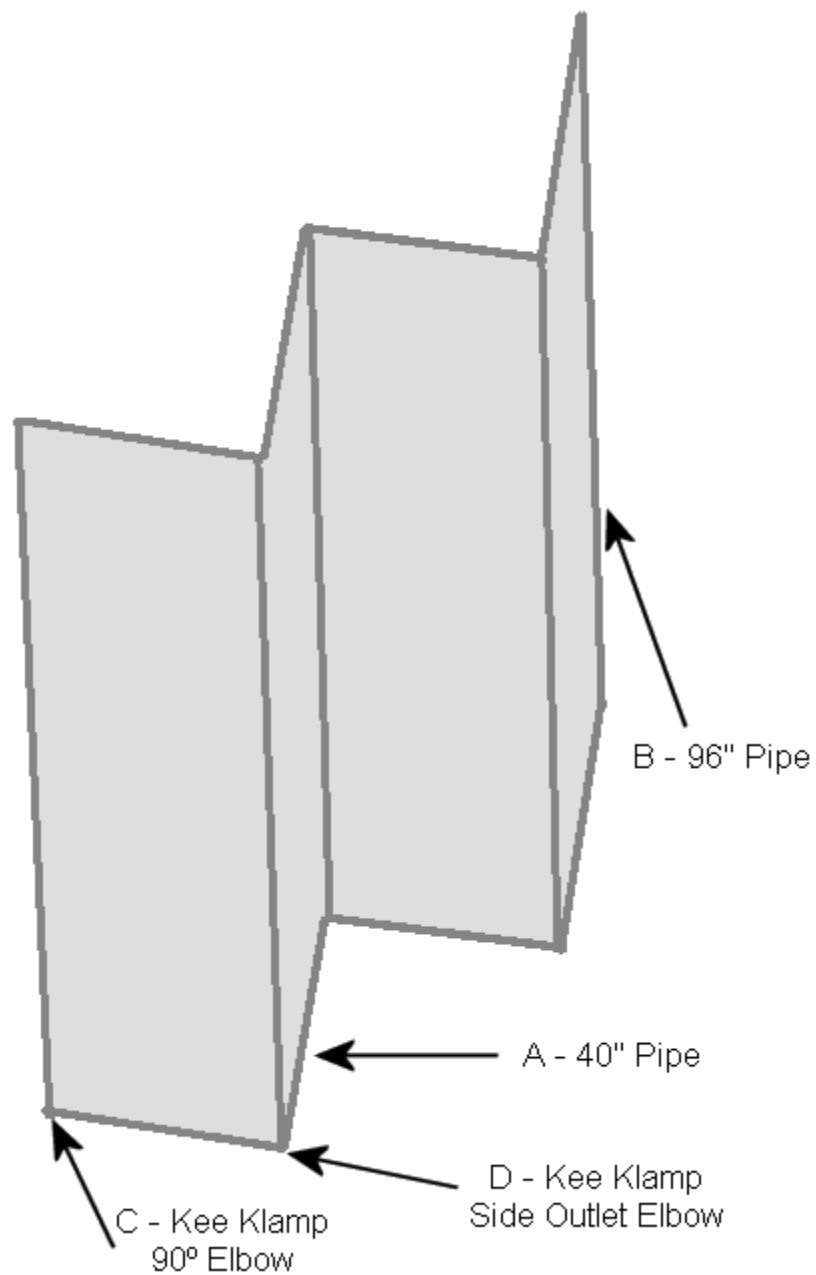
Running out of room for all of those plants? Or maybe just need a better way to handle those that are mounted? You are not alone!

Several years ago I met a lady in the Pittsburgh area whose entire greenhouse was bench-free. Instead, she had a series of pressure-treated wood 4 x 4's sunk into the floor, arranged in a zigzag pattern. Stretched between those vertical posts was hardware cloth, and nearly everything she grew was hung on the mesh. It was one of the most efficient uses of greenhouse floor space I have seen.

Not only can you grow more plants in the same space, the air flow through the mesh makes for a healthier growing environment.

I recently needed to improve the space utilization in my hobby greenhouse, and decided to replace a 30-inch by nine-foot bench with my own version of the zigzag setup. So that it would be durable, free-standing, and yet still able to be disassembled, I used galvanized pipe, which my local plumbing supply house cut for me, and Kee Klamps as connectors. Kee Klamps are commonly used as connectors when building heavy-duty storage racks from pipe. They are galvanized steel, and attach to the pipe via set screws. I purchased them from W W Grainger, and have provided the part numbers below.

This drawing will give you some idea of the general shape. By using this design, I was able to replace 22.5 square feet of bench space with roughly 240 square feet of hanging space utilizing the same amount of floor space. Two things to note: you don't really have quite that much more growing space, as a pot-plus-plant takes more room vertically than it does on a bench, and you actually end up with more free floor space, as the full width only occurs at the ends and bends in the structure.



The parts list:

- A. 1" galvanized pipe, 6 pieces x 40" long
- B. 1" galvanized pipe, 4 pieces x 96" long
- C. Kee Klamp 90° Elbow (4UG85), 4 pieces
- D. Kee Klamp Side Outlet Elbow (4UG87), 6 pieces
- E. Galvanized Fence, 8-feet x 2" x 3" mesh, 14 feet (or use hardware cloth)
- F. Stainless steel hose clamps, 1"-1.25" diameter, 42 pieces

Assembly:

1. Connect three of the 40" pipes using two of the side-outlet connectors, and tighten set screws.
2. Insert 96" pipe vertically into the opening in each of the side outlet connectors and tighten.
3. Attach a 90° elbow to one end of each of the remaining 96" pipes.
4. Slide the elbow onto one end of the base, aligning the 96" pipe vertically, and tighten the set screw.
5. Attach a 90° elbow to two of the remaining 40" pipes.
6. Slide a side outlet elbow over the other end of one of the 40" pipes to which you just attached the elbow. Do not tighten it.
7. Starting at one end of the frame, slide the elbow end of the pipe over the end vertical, with the side outlet elbow over the next vertical, and tighten all connections.
8. Slide the remaining side outlet elbow onto the last 40" pipe. Do not tighten.
9. Slide the free end of that 40" pipe into the already-attached side outlet elbow, and then slide the other one down onto the third vertical. Tighten all connections.
10. Slip the free end of the last, unused pipe into the side outlet tee, and slip the elbow down onto the last vertical and tighten all connections. The frame should now be free-standing and rigid, resembling the picture above.
11. Starting with the upper corner of one end of the frame, temporarily support the fencing mesh with a hose clamp. Be sure to leave a 2"-3" overlap.
12. Unroll the fencing mesh, snaking it around the outside of each upright, using hose clamps as temporary supports as you go. Keep it level throughout its length.
13. Once the fencing mesh has been fully supported, you may begin attaching the end. I prefer to wrap the fencing mesh completely around the post, then tighten the hose clamp to hold it securely in place. Work your way down that first upright post, using the mesh wires as a guide to ensure alignment, attaching the mesh with a hose clamp about every 12- to 18 inches.
14. The anchoring of the mesh on the inner posts can be done with greater spacing than the ends, but always start at the top, pulling it tight from the previous post, and down from the topmost clamp.
15. When you have completed anchoring the mesh to the uprights, you may add support clamps to the top, and then it's ready to use.

I hang mounted plants on the mesh using the original hangers, and pots may be easily hung

by running an S-hook (I made mine by opening the links on light chain) through the pot lip.

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