Halloween Props

http://www.angelfire.com/goth/clintshalloweenprops/Columns.html

How-To build columns with propane flames.







Parts



2x4 Boards (I used an old fence under the free section of craigslist.org)

1x4 Boards (From the old fence)

1-1/2" Screws

2 Small door hinges

1 Magnetic door catch

1.5"-2" Metal Screws

2 - 2" metal pipe 25" long

thick sheet metal (I used road signs)

Propane Tank

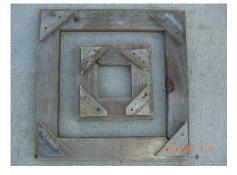
Air Hose

Propane Burner (I used an old camping grill)

Step 1 - Frame



Cut 4 2x4's to 2' long on the long side and at a 45 degree angle. This will be the bottom. Cut them and screw them together to make a square. Do the same thing again but cut them to 1'. This will be the top.

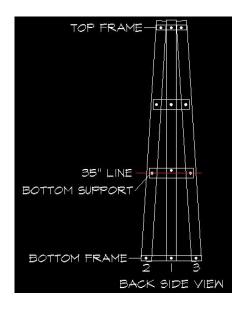


This is the top and bottom part of the frame. I like to screw these together on the top using "L" brackets because I think it holds better (the picture shows 1x4 cut into triangles to hold the boards together but the eventually broke from moving the columns).

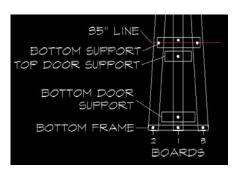
Step 2 - Start Assembling



Put the 2' square on it's side on the ground and then get the 1' square and make it 6" off the ground. I used a brick and a 2x4 (you can see it in the picture a little bit). Get an 8' 1x4 (part of the free fence I found on the side of the road) and screw it to both the top and bottom pieces. Now put the edge pieces on and make these tilt inward at the top. Screw them down and do this on the two sides that touches this side. Leave the front side open because we will need that open for later.

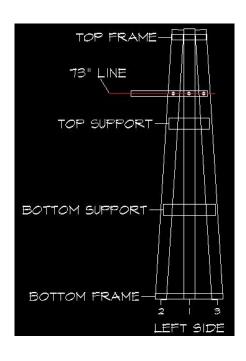


After you have screw three boards on each of the three sides, now we need to start bracing it to make it stronger. I used 1x4's and cut them to size. The only side that matters where they go is the back side. The other two sides I put them about 1/3 the way up and 2/3 the way up. The back side (opposite of the open side) mark a line about 35" from the bottom onto the three boards. The middle of the support board should be on that 35" mark. Screw the two outside boards to the support board on the 35" line and on the middle board, screw it towards the top of the support board, above the 35" line. This 1x4 is going to keep the door from swinging into the column. See picture to right for correct screw placement, the white dots resembles the screws.



Now cut another 1x4 and screw this one right under the one we just did. This board is going to be the Top Door Support. Make sure this board does not go under the two outside boards. Those boards are not part of the door. Get another 1x4 and cut to size right above the bottom frame board, this will be the Bottom Door Support. Again, do not let these go under the two outside boards. Make sure your screws are in the right place, as shown in the picture to the right.

Step 3 - Putting in the Pipes



Now that you have some of the back side done, we need to put in the pipes that will hold the nozzle for the flame. Do not use wood on this part for it will get very hot and might catch on fire. Start on one of the sides. Cut a piece of pipe at about 25" long. On the side of the column, mark a line up from the bottom at 73". Mark the line on the boards and clamp the pipe to the boards. When you clamp it, make the middle of the pipe even with the line you just marked. Now predill the holes and screw the pipe on with the metal screws (3 on each side). Repeat this on the other side.

Step 4 - Filling in the sides



After you have screwed on the support boards, the door support boards, and the pipes, it is now time to start filling it in. Get another 1x4 and lay it down on the inside of the outside boards. Let this board tilt in the same like the two out side boards.



It will over lap the middle board at the top and we will cut it off. Put a screw on each side (top and bottom) and lift the column up so that is is standing up (or just roll it over).

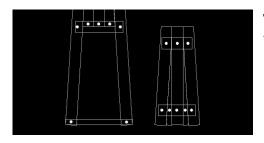
Now mark the new board and go cut it to make it fit. Screw it back in place and do this on the other side of the middle board. After you have a total of 5 boards on the back side, go a head and fill in the 2 small gaps at the bottom. You should completly fill up the back side with 7 boards. After you complete the back side, finish the left and right side so all 3 sides are completly filled.

Step 5 - Finishing the Door



With the three sides done, we need to make the door. Unscrew boards 1, 4, 5, 6, and 7 and cut the boards along that 35" line we made in step 2. Do not cut the two out side boards because these are not part of the door. Screw the top pieces to the top support board and the bottom support board. Take the bottom parts of the boards we just cut and screw them to the top and bottom door support boards. After that, it should look like the picture to the right. Double check the screw positions (remember, those are the white dots in the picture)





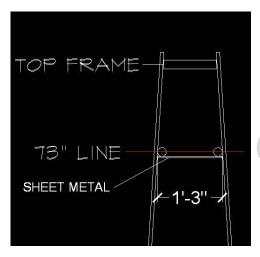
This is what the column should look like with the door taken off and put next to it.

Step 6 - Installing Door Components



After completing door, we need to install the door hinges and the magnet catch. I put the hinges on board 3 and 5. Those are pretty easy to install so I won't go into detail about how to install them. To install the catch, I cut a small 2x4 (about 3-4" long and screwed it to the inside of board 2 so that the side of it was even with the edge of that board and screw the catch to that so the door will hit it. Now just screw the metal plate in the correct spot on the door and the door is done. I didn't put a handle on it and I just pull at the very bottom to open it.

Step 7 - Sheet Metal

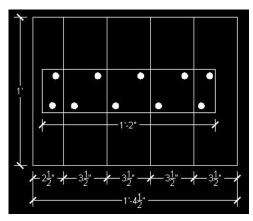


Now that we have the left, right, and back side completed with the door on, we need to start working on the front. We start by taking the sheet metal (I cut up an old road sign that my brother used to have hanging in his room) and we will screw it the the metal pipes. Your sizes might be a little different from mine but just measure how far you pipes are sticking out of the column and how far apart they are (from the outside of the pole, not the center). My dimensions were about 11" long by 1'3" wide. So I cut my sheet metal at 1'3" wide by 8" long. If you already have your propane nozzle, this is the best time to make the holes in the sheet metal to screw it to. Go a head and screw the sheet metal to the bottom of the pipes but close to the front of the pipes so there is a gap between the sheet metal and front of the column.



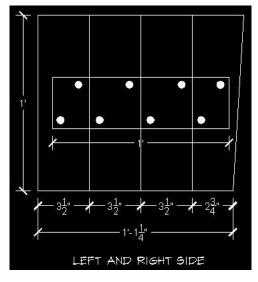
This is what mine lookes like with the propane nozzle installed and looking down (the box is already make around it and we will build that next.

Step 8 - Front of Wooden Box



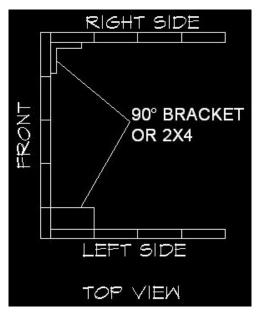
We will start to make the box that goes around the nozzle. Since my pipes were 1'3" apart, that is how wide it needs to be. So lets start with the front of the box. Take a 1x4 and cut 5 pieces out of it that are 12" long and 1 piece that is 1'2" long. Take one of them, and cut 1" off the side of it so it is now a 1x2.5. Take 4 pieces of the 1x4 and lay them vertical all next to each other and lay the 1x2.5 next to those so it is about 1'-4.5" wide (since 1x4's actual size is really 3/4" x 3-1/2"). Now take the last 1x4 and lay it across all of them in the very middle and put 2 screws in each vertical board, put 2 screws to keep the boards from twisting (I screwed it from the front so the screws would be sticking on the inside of the box so no one would get poked by them.

Step 9 - Sides of Wooden Box



Now take another 1x4, and cut 10 pieces 12" long. Take 2 of them and cut a 3.5 degree angle off the side of them so they will meet up with the columns and the box will be straight. Take 3 of the straight pieces and 1 angled piece and lay them vertical and screw 1 board across them and screw it together. Do the same thing with the last 5 pieces.

Step 10 - Construction of the Box



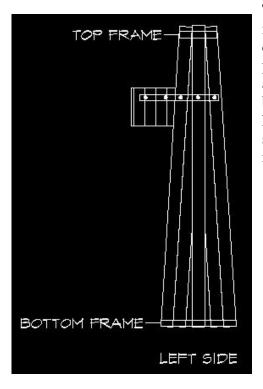
Take the 3 sides we just built and get either a 90 degree bracket or a 2x4 and screw it the very edge of the front of one of the sides. We want the front side of the box to over lap the sides. Now get the front and make the edge of that even with the edge of the side. Do the same on the other side. If you use the 90 degree brackets, you can put 2 on each corner but make sure the top one is at the very top so it will not hit the pipe, and if you use a 2x4, put it right in the middle.

Step 11 - Bottom of Wooden Box



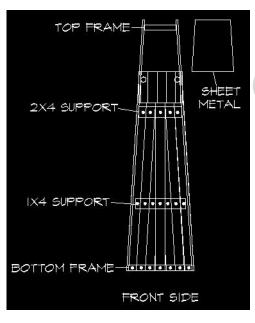
This is the last step of the construction of the box. Get another 1x4, cut 4 pieces of 1'3" long and 1 that is 12" long. Take the 1'3" pieces and lay them all together like we have been and screw the 1'2" peice to the back of them. Now that piece will slide into box. I sat my box up straight on the ground and laid that piece in the middle and it was easier to screw it in and it kept it level with the bottom of the box. After you have done that, the box is finished. It should look something like the picture (the picture shows is mounted on the column, we will do that now).

Step 12 - Installation of Wooden Box



This is the time that you have to have the propane nozzle installed or you will have to take the box back off later to do it. Get the column, and lay it on its back, with the poles sticking up. Grab the box and let the poles rest about 2-3" below the top of the box so people can't see the burner. You will might have to hold the box with one hand and predrill and screw it in with the other. But put 2 screws into the pole on each side. And all we have to do now is finish the front.

Step 13 - Finishing Front of Column



All that is left to do is the front. You will need to do the same thing that we have done with the other 3 sides, just cut them off at the bottom of the box. I used a 2x4 and made it fit snuggly between each side and screwed it into the sides so I had a top support for the boards to screw into. Just lay the boards on, measure, and cut just like we have been doing. Get some more sheet metal, cut to fit the top part, and your done. I used sheet metal up there so I wouldn't have to worry about the wood catching on fire. You can see at the pictures at the top of the page that I cut the sheet metal to look like the boards.

Step 14 - FINISHED



Just get your propane tank, a regulator, and hook it up to the nozzle. I used the same connectors that people use for air hoses so that I can take them apart pretty easily. Hope you enjoyed this.

