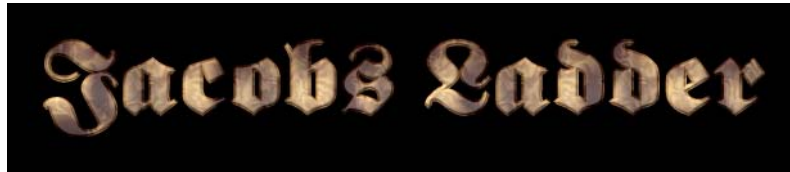




<http://www.deathappeal.com/>



First things first. THIS DEVICE CAN KILL!!!! USE CAUTION!!!! I WILL NOT BE HELD RESPONSIBLE FOR ANYTHING LEARNED, ATTEMPTED, COMPLETED FROM THIS PAGE!!!!

I feel better now but seriously this device can kill you if you don't know what you are doing. High Voltages are nothing to take lightly and if you don't know what you are doing or feel uncomfortable about building this then by all means seek help!!!

To complete this project you will need:

- 1 Neon Transformer
- 2 Copper rods or pieces of wire
- 1 AC switch
- 2 Terminal lugs
- Wire Nuts
- High voltage wire
- A few 1x?? if you decide to encase the unit

My plan for one of these Halloweens is to have a laboratory display with Frankenstein, a mad scientist, bubbling test tubes and beakers and of course a Jacobs ladder. Hopefully I'll have a set of twin tesla coils going off for an even more dramatic effect. You have to start slow so I started on the Jacobs ladder. I picked my neon transformer off of Ebay. People claim that you can sometimes get them from neon sign shops but I had no real luck and the ones I did find, the owner wanted more for those than what I paid on Ebay. I picked up a 15kv 30ma neon transformer and went to work.

There are not that many pictures of the building process but here is what I have and I'll try to describe each one.....



I took some 1x12's that I had laying around and built a box around the transformer. I didn't want someone to be able to put their little hands inside.

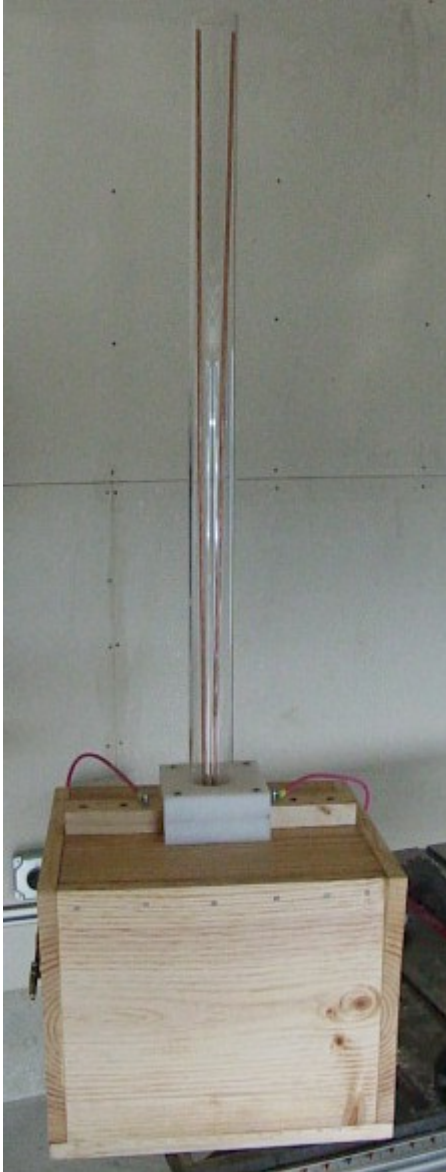
The orange wire on the left is the 120VAC for the transformer and the pink wire is some high voltage wire rated at about 40kv that I purchased from Ebay.

The two white insulators are not part of the transformer but I added them because at times I could hear arcing and it looked like the wire was arcing to the case. These are plastic insulators they use for an electric fence. I got a bag of them for about 4 bucks at our local farm supply store (County Post). The switch controls the AC to the transformer and fan. Fan! Why he never mentioned a fan before... It's optional of course but in the process of building this and testing, sometimes the arc would start and just hang there at the bottom. If I blew a bit on the arc it would start to travel up the two copper rods. This would happen no matter what adjustments I made and I wanted the arc to keep moving. Thinking this could be a problem I installed a box fan on the top. I drilled holes into the 2x12 that I used for the top section so the air could pass through.



After everything was mounted I put two cabinet handles on each side for looks and to give me something to carry this with and then I gave it a coat of polyurethane just to seal it.

I had purchased some acrylic tubes from McMaster Carr for a bubble tower which came in very handy to cover the copper rods so someone one could not accidentally touch them. When I first started to test / build this thing I tried copper wire. It worked fine but the results were erratic because sometimes the arc would not jump the wire and I would have to readjust it. So...I broke out the McMaster catalog and found some copper rod and ordered a section. Before I tried the copper rod I tried some copper plated ground rods but didn't have much luck with that either.



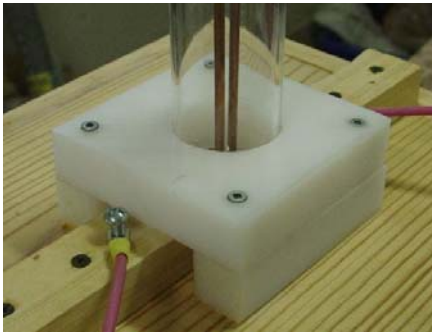
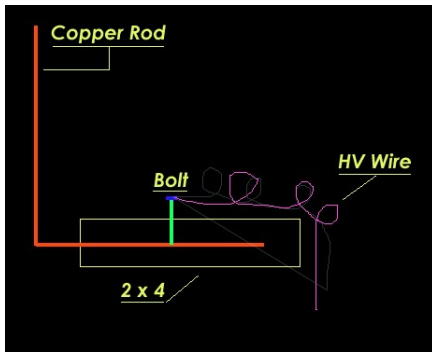
When the arc would stall it would cause the copper plating to scare and after awhile the arc would not travel very well for some reason. The pure copper rods worked best in my opinion.

You can do this part anyway you feel comfortable but this is how I did it. I took a 2x4 and cut it down a bit. I then drilled a hole in the center almost the full length of the board.

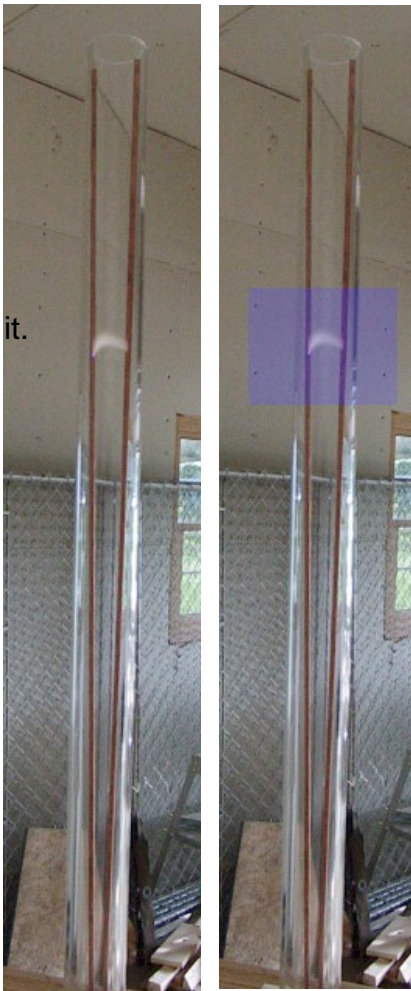
Drill another hole towards the end but make sure it intersects with the first hole. This is where you will screw a bolt in to the hole to hold the rod in place and attach the high voltage wire coming from the transformer. I put the copper rod in a vice and bent it at a 90 degree angle or pretty darn close. Pound the copper rod into the 2x4 until the bend is flush against the end of the wood. Take a bolt and thread it into the other hole to hold the rod in place.

Once you are done you should have two of these "rod holders". What is nice about this is setup is you can either mount the 2x4s to the base and when you need to adjust the distance between the rods, just pull the rods out a bit from the 2x4 or leave them un-mounted and make your test until you are very close then screw the 2x4s down to the base. I went with the second option. Because of the way I had built mine I had support to hold the 2x4s in place even though they were not screwed down so this option worked great for me.

Make sure the area is clear and fire up the transformer. Remember you bent the rods at a 90 degree angle and you will probably have to bend them by hand just a tiny bit to get the separation at the top of the rods. Of course **MAKE ALL ADJUSTMENTS WITH THE POWER OFF AND THE TRANSFORMER UNPLUGGED!!!!**



The white plastic stuff is Tivar 1000. We use it at work and I was going to try to put the copper rods in that but at times this stuff would catch fire and start to melt when the arc started so I dropped that idea and went with the 2x4. Although it worked great to secure the acrylic tube in place. I'm sure you could use any kind of lumber if you decided to build one like this



Here is the working ladder. Both pictures are the same but the one on the right has the arc highlighted in a blue shade. Even though the ladder is encased some what it doesn't mean it is safe. You should not leave this running unattended or leave it in place where some unsuspecting person might get their hands on

My ladder is about 36 inches tall (rods). I had tried using 6 foot copper rods but they were not thick enough and would wobble so I cut them in half. If I build a bigger one I'll have to get thicker copper rods. The acrylic tube fit just fine and there is a bit of clearance between the rods and the tube. If I had gone much higher I would have needed a larger tube and believe me, when you start getting larger sizes of acrylic tube it gets expensive. If you decided to build one you should really think about some sort of encasement for protection.

Obtained from
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