

Portable Stage Curtain

*USED BY I FIRENZI,
A COMMEDIA DELL'ARTE TROUPE FROM BARONY OF WINDMASTERS' HILL,
KINGDOM OF ATLANTIA*

*MODIFIED AND REFINED
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Introduction

This handout is not a step-by-step description of how to build a portable stage curtain. It is, instead, a description of, and commentary on, the use of the curtain assembly used by I Firenzi, our commedia dell'arte troupe. The leg assemblies were made for Lady Sophia a number of years ago by Lord Michael Colquhoun from the Midrealm. I am not sure of the origin of the curtain itself. I took the basic idea and made refinements that made the curtain easier to set up and also allowed it to be used in an inside venue.

Components

The assembly consists of the following:

- Four 84" leg units made from 2x4s
- Two curtain panels strung on a rope
- Six cement blocks used as anchor weights
- Four large buckets used to keep the cement block from scratching floor when inside
- Two adjustable ropes like one would use with a pavilion

- Long heavy rope used to outline the “stage area”
- Hardware: bolts, washers, wingnuts, i-bolts, clothespins, carabiners and spring snaps
- Tools: two wrenches sided for the bolts
- Two sheets to cover/disguise the cement blocks

Leg units



Each leg unit is made from a standard 2x4 dimensional pine lumber. The finish length is 84". It appears that each leg was constructed out of a 7 ft long 2x4. The ends of the board are rounded off, routed using a quarter-round bit, and sanded to minimize splinters and rough edges. The leg units had a dark stain applied but it does not appear that any other finish was applied. Each leg breaks down into two pieces that are 45" long. One end of the assembled leg unit has 2 holes; the first is about 1" from the end of the board and centered in the wide side of the boards. The second is 5.5" down from the end of the board and offset, 1" from the edge. The location of the holes is consistent across all 4 legs so it appears that all 4 boards were drilled as a stack. The offset allows a pair of legs to be assembled into a "V" unit that supports one end of the curtain. Two "V" units are required so that means a total of 4 leg units are required.

Details about the leg breakdown

As mentioned above, each leg unit breaks down into two sections each 45" long. A 6" long "S" shaped cut across the wide side of the board was made in each leg starting 3" one side of center and ending 3" the other side of center. This leave each section with a 6" tab that will overlap with the other tab to re-assemble the leg. Two hole were drilled through the board centered in the narrow side of the board. No two cuts of the boards for breakdown were the same, making it important to label the matching pieces from each board so that reassembly is easier.





Two 4" long hex bolts are used to secure the two sections together using wing nuts rather than standard hex nuts. This allows the leg to be assembled and disassembled using a single wrench. Washers are placed on the bolt on both the head and nut sides to spread the force of the bolt across a wider area of the wood, since we are using pine boards. 2 bolts per leg and 4 legs mean a total of 8 hex bolts, 16 washers, and 8 wing nuts for the legs assemblies.

Assembling the legs into "V"



As mentioned above, it appears that the holes for connecting two legs together into a "V" were all drilled through at the same time because the holes on all 4 legs line up. This means I can match any two of the leg assemblies with another; if they had been drilled individually, the holes would not match, even to the point where they might not match at all. Note: if you choose to make legs like these, I would suggest you at least drill the legs in pairs, so at least the holes on those two legs match each other And then **label** the legs so that you can easily match the paired legs together when doing assembly of

the "V"s.

I use two 5" eye bolts with washers and wing nuts to secure two legs to each other. Place the two legs you are putting together next to each other so that the holes in upper ends are mirror each other (see center photo below). Move one leg on top of the other so that the both sets of hold match up and the boards form a "V". The eye-bolts go through the holes so that there is one "eye" on each side. Using washers to bracket the wood keeps the eye from digging into the wood. To get the maximum curtain height, the eyebolts in the upper holes face inward and are used to suspend the curtain and the lower bolts face outward and attach to the guy ropes and the anchor weights.



When assembled, the open-end of the "V" should be between 25"-32" inside-of-leg to inside-of-leg. If you are choosing to make the legs of the same dimensions and spread, placing the "feet" of the legs within the distance should result in the upper eye-bolt about 81" off the ground.

Curtain unit



The curtain unit consist of the curtain fabric with a rope threaded through one edge of the fabric and two carabiners. I believe the curtain is made of several plain white sheets (or similar material) sewn together. It consists of two panels threaded on a rope. The panels have a finished size of 8 ft by 72" (finish size) and appear to have been made from sheets or some similar material. There is a 2.5" hem stitched along one of the 8' edges that the rope is threaded through. The junction between the two panels (what would be the middle of the curtain) is pinned closed using safety pins. It could be used as a doorway to enter the "stage" but we have never done that.

In total, the curtain is 16' wide. It seems may be obvious to say so but the rope for suspending the curtain is permanently threaded through the curtain panels.



The rope appears to be "clothesline" weight and is longer than the 16+ feet need to stretch the curtain. Having the rope longer allow some leeway in the placement of the legs, making it possible to place the legs farther apart than the actual 16' width of the curtain. Since we most frequently use the curtain at full width with the edge of the curtain hanging next to the legs, knots with loops have been tied in the rope where it come of the curtain and caribiners are kept attached to these loops, making for quick attachment to the eye-bolts of the leg assemblies. I also use clothespins to keep the curtain spread to

its full width.

Anchor weights



As originally designed, the support ropes were just staked in the ground. This works pretty well, but I did find I needed to use multiple stakes or large stakes. If you really want to use stakes I would suggest at least two rope/stake pairs, set at 30 degrees each side of the plane of the curtain itself. When we started to perform in inside venues, we needed a no-stake option. In addition, we have run into some outdoor venues that do not allow ground stakes (they had inground sprinkler systems). Therefore we needed easily transportable and relatively inexpensive weights. Cement or cinder blocks seemed a

good choice. We use a total of six blocks (three on each side) as anchor weights to counter- balance the weight of the curtain and keep the leg assemblies upright and stable. Each block weights about 33 pounds so there is about 100 pounds on each side. One issue we had to consider was that the blocks are quite rough and could scratch a floor if they were to slide or scrape across the floor. Therefore, we have four large square buckets (from kitty litter) that fit the blocks pretty well. The two block that contact the floor are put in the buckets and the third block is stacked on top (see photo). Two of the blocks have loops of rope attached to them with



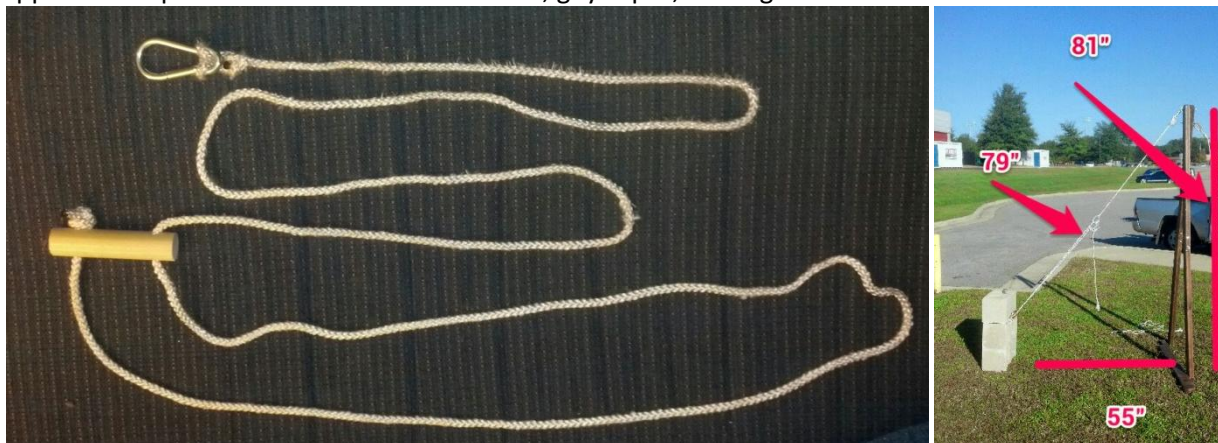
carabiners. These carabiners are also used to attach the support/guy rope that attaches to the leg assembly. Most of the time, we have use the blocks in the orientation show in the photo. However, if space and ground allows it, it appears that a more stable orientation for the blocks would be to put the bottom two block (the ones with ropes and carabiners) next to each other on the ground on their sides (rather than on the end as show above), with their ends pointing at the leg assembly. The two rope with the carabiners are arranged so they are toward the curtain. The third block is stacked on the other two. We have ended up using the blocks even when on grass for a number of reasons:

- The stakes would end up muddy, which would get on the curtain.
- It really takes more than one stake to provide enough force to support the curtain and leg assemblies. A single stake would just not hold. That would mean more than one support rope as well.
- We would have had to carry around a hammer with which to pound them in.
- It's easy to lose stakes in the grass in the dark. It's practically impossible to lose a cement block in the dark.
- The blocks just end up faster setting up and taking down.

Ropes

In the original design, the rope that holds the curtain up was knotted around the top of the leg assemblies and the excess was pulled out at an angle and tied to a stake. This was done on each end to hold the curtain up by keeping the leg assemblies (inverted "V"s) upright and stable.

I built ropes like we use for a pavilion; a length of rope with a "dog-bone" rope tensioner. At one end of the rope I put a snaphook (carabiner) so I could quickly and easily attach the rope to the eye-bolt of the leg assembly. The ropes were about 12' long before I added the rope tensioner and the snaphook. The carabiners on the anchor weights (concrete block) are attached to the bottom loop and the rope tension is adjusted using the dog-bone. I have two of these rope one for each end. The second photo give approximate placement of the cement blocks, guy ropes, and leg assemblies.



Hardware and Tools

As stated in the sections above, I used 8 hex bolts, 4 eye-bolts, sufficient washers and wing nuts for the 12 bolts, 8 carabiner/snap-hooks. Note: go ahead and buy extra washers and wing nuts. You WILL drop and lose washers and wing nuts in the grass so it's good to have a surplus supply for those occasions.

Also have a couple of extra hex bolts around so you don't get stuck someplace trying to set up the curtain only to find the one or more bolts is missing.

I am using 7/16" hex bolts so I have two 7/16" combination wrenches. This allows me to hold the hex bolt stable using the wrench while tightening the wing nuts with my hands. Having 2 means that two people can work on assembling or disassembling the legs at the same time.

Modifications for the future

There are a couple of things that I would do differently and/or plan to modify in the future.

- If there is a breeze, the curtain tends to lift and flutter. I plan to add some curtain weights to the bottom of the curtain to keep it down. Similarly, I am thinking of adding some tabs or ties along the bottom edge that would allow the bottom edge to be attached to stakes.
- Applying a sealant like polyurethane or a penetrating oil to the legs would protect them from the elements and reduce the chance of getting a splinter when handling them.
- Someone suggested to me that diving ballast bags might be easier to handle than the cement blocks and would alleviate the problem of scratching a floor.
- The curtain does sag a little in the middle so having a free-standing pole in the middle to shore up the curtain would be useful.
- On occasion, it would be useful for the curtain to be taller; there are times the audience can see the tops of the heads of the folk behind the curtain.
- It would be good to have some way of having a bar that runs along the top curtain line. This would allow things like stunt ladders to be leaned "against the curtain" as well as stage decorations (like a window) to be suspended.

How to put up the curtain

- First, lay out the leg assemblies (poles)
- Assemble the poles into the Vs
- Lay out curtain between the poles
- Lay the poles out so that the curtain rope is stretched between the poles then attached to the top I-bolt in each pole
- The upper eye bolts should be inside, the lower I-bolt should be outside
- Adjust the position of the poles so the curtain is taut and the whole arrangement is correctly positioned
- From the point where the top bolt is on the ground, pace off 6 "foot" lengths (about 55") and place the cement blocks there
- Set a pole up at an angle so it stands almost vertical
- You should be able to use the weight of one pole on the ground to keep the other mostly upright
- Snap the rope with the dog bones to the lower of the two bolts on the legs using attached snap
- Put the loop of the rope through the two snap carabiners on the weights
- you should be able to pull up and get the legs close to vertical
- proceed to the other end of the curtain and do the same thing with the remaining pole

- once you've got it all vertical , I put a set of clothes pins near each end of the curtain rope to keep the curtain material from sliding, keeping the curtain fully extended.
- everything up and it should work

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