BUILD A CLASSIC STRING TOP

By Taran Card

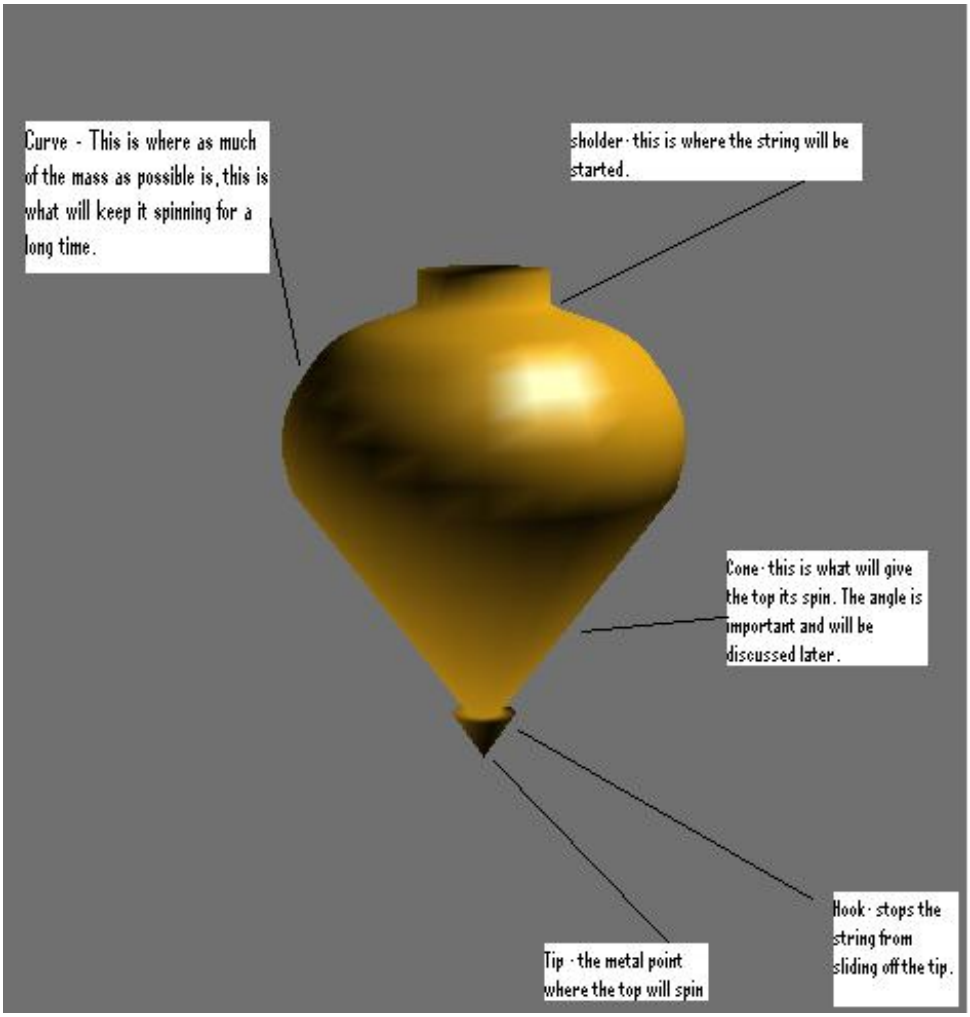
First let me apologise for the shavings and clutter around my lathe, I started to clean up, really, but I then I got side tracked and wrote this!

OK, so, the classic string top, I tried to find some information on these after seeing a friend of mine play with one. He is around 40 and carries one everywhere when he goes on trips. He says it is a great icebreaker!

Well I did not find much so I ended up buying 2 different production ones, one wooden and one plastic with a double bearing suspension, very fancy! And proceeded to first try to get them to spin (2 weeks), then to figure out how they work and how to make one! And here are the distilled fruits of those labours:

Top Basics:

In the rendering below is a very classic, basic top:



I have given names to the important parts, I don't know if there are other names for them but I needed to call them something in the article.

Shoulder: - this is the nub at the top of the top, it is where it will eventually be parted off the lathe and it is where the string will start to be wound this shoulder needs to be at least as tall as the thickness of your string. It is also worth noting that if you make it a little taller, you will be able to re-chuck the top to the lathe for some fine tuning later. Don't make it too wide though as you have to wrap the string around this first and this string is not actively spinning the top.

The Curve: - this is where the mass of the top is concentrated, more mass = more momentum, the more mass you can move further from the centreline the longer the top will spin. I have also found that the lower you keep the mass the more stable the top will be.

The Cone: - this is where the string will be wound to spin the top. Do not make the angle too steep or the string will slide over itself and not spin properly. This surface should not be smoothed too much or finished with any product that will make it slippery.

The Hook: - this is a small step built into the tip to prevent this string from slipping off the tip. (I didn't put one of these on my first top and I couldn't wind the string at all)

The Tip: - this is the business end and I use a 1/8" masonry nail pressed into the top and then rounded off.

Type of Wood:

Just a quick note, in the old days, tops would have been made out of whatever was local, so give it a try.

Make sure the wood is heavy since that will make the top spin longer, but most important is to make sure it is tough, the sides of the top will take a bit of a beating (especially while you are learning) and the harder and tougher the wood the better it will last.

The piece of wood should be as clear as possible. Knots and features introduce changes in density which will make the mass distribution in your top uneven and it will wobble and not spin as long or well as it should.

I am using Allspice for this top, I live in Bermuda and it grows wild here. This piece came from my back yard.

My Method:

	Start mounted between Centres.
	Round off the stock, keep as much diameter as you can.
	Ensure that you size the tenon at one end to fit the chuck you will use eventually. Leave plenty of length here as it will eventually be the shoulder of your top.

	
	Shape the upper section of the curve. I like to sand this now while I have plenty of room.
	Re-chuck the piece in the same orientation. Keep the tailstock for as long as you can to avoid things getting knocked out of alignment.

Begin Shaping the bottom of the curve and the tip.

Note that if the grain does not take the hook well enough a few drops of crazy glue will strengthen it up. This is very important as the top will not spin without the hook!

Final sanding the curve.

I only sand to 100 grit for tops, they are going to get beat up anyway and the texture helps the string grip.

	I finish mine with thick, homemade shellac. I wipe it off immediately and that is it. Remember that you do NOT want it to be slippery! I have left some without any finish at all!
	Remove the tailstock and set the tool rest to work on the end.
	Very carefully, you need to put a dimple in the centre; this will help locate the drill when you end drill.

	Now centre drill about 2 – 3 cm.
	Now I use the closed drill chuck to press a masonry nail into the hole. (With the lathe turned off! ;} Note these nails are harder than normal nails but I am sure normal ones will work fine, I just have these around. The spirals help them grip without glue.
	Almost done!

	Now I use the drill chuck as a support…..
	And cut off the extra nail.
	Now take a rotary tool and a grinding wheel, and round off the end of the nail. I keep the lathe spinning here so the tip will be perfect and round.

	Part off the top with enough room for the string shoulder.
	And your top is done!

Using the Top – How to Spin

	The string should be good strong cotton. Artificial fibers are too slippery. 2 strands are better. And put a button (or small turned disc?) on one end. And a simple figure 8 knot on the other I read somewhere online that the length should be the same as the height of the users shoulder.

	Wrapping the string around the shoulder counter clockwise and hooking the knot under the string. This is what trips the top and gets it to land on its tip.
	Stretch the string down to the hook and then start to wrap overhand or clockwise when looking at the tip.
	Wrap until you run out of string.

	I keep my string by having the button between my ring and little finger and the string wrapping around the back of my ring finger.
	Hold the top like this and use a ‘tennis swing’, gently, releasing the top and pulling back on the string. There is a good resource for spinning instructions and videos: http://topspinning.com/
	There she goes!

	**My other tops** The one from this demo is second from the right in the top row. FYI, the best spinners are the two on the left. They have more mass and better balance. They are made of Casuarina, which is very hard and also grows here. The two tops on the bottom were my reference, store-bought tops.

Finally

These make a great toy for young kids (and old ones) and might even keep them away from the T.V. for a while.

Ok. Well I hope you enjoy this, I certainly did and the hours my dad and I spent trying them out on the driveway were worth it.

Good luck.

Taran Card
Lives in Bermuda and has been turning very casually for about 1 year. Most of my ideas and knowledge came from the net including:

http://www.woodturningonline.com/

I owe a lot to these sites and their builders. Thanks!