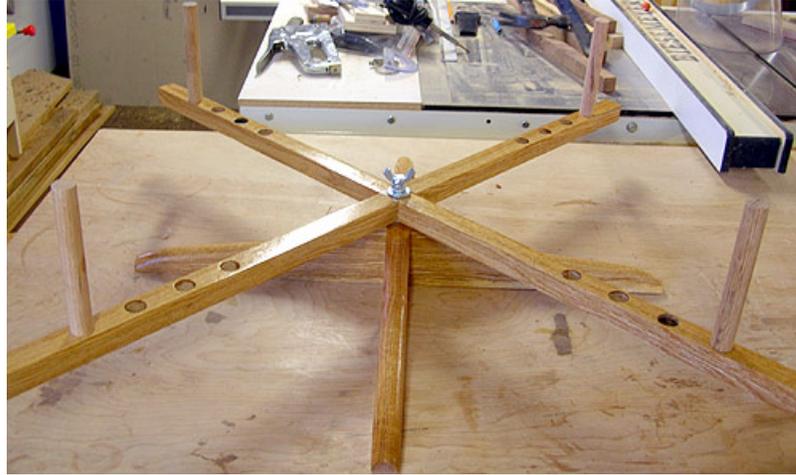


Yarn Swift  
Free Plans  
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One day my darling wife came to me and asked if I could make her a yarn swift. Since I had no idea what one was, I hit the internet and did some research. I found lots of designs, but only one reference to a plan, which, unfortunately was an all too familiar broken link. So, I just decided to make one myself. It came out functional and useful, if not the glorious contraption that some commercial models are. You are free to copy and use this plan as you please. All of my measurements are based on a combination of what I thought looked right and what I had in stock. I am a hobby woodworker so I have a full shop and access to WAY too many tools. If I make reference to a tool you do not have, my name is Bob. You may use my name in vain at the top of your lungs and then just make due with what you have. Email me if you have questions. Have fun!

Materials:

- Arms- 2- 1" X 1" X 36" pieces of hardwood. Oak or Poplar are relatively cheap and easy to come by. I used 1" X 1" because I had some. I'm sure 1" X 3/4" will work just fine.
- Feet- 2- 1" X 3" X 24" pieces of hardwood.
- 4- 6" pieces of hardwood dowel
- 1- 5" X 3/8" Carriage bolt (a lag bolt works fine as well)
- 4- 3/8" washers
- 1- 3/8" nut
- 1- 3/8" wingnut
- 3- 1 1/2" steel sleeves (3/8" inside, 1/2" outside diameter)
- Sandpaper (100, 220, 400 (or 000 steel wool))
- Your favorite flavor of finish.

**Note!** All of these materials assume you are using 1" thick stock. If you go to Home Depot, you will get 3/4" stock. If this is all you have, substitute the following:

1/2" hardwood dowel

1/4" hardware

1/4" steel sleeves

Everywhere you see 1" measurements regarding wood, substitute 3/4"

Everywhere you see 1/2" measurements regarding holes, substitute 3/8"

Your dowel holes will be 1/2"

#### Tools

What I used	What you can use:
Table Saw	Circular Saw, rip saw, saber saw
Band saw	Optional. If you want curves, a saber saw, fret saw or router can cut the curves in the feet for you.
Drill press	Hand drill
Dremel	Hacksaw

All of these measurements are guesses based on what I thought looked right. If you know better... do better (please email me if you have corrections).

Start by rough cutting your lumber to size.. The feet are 24" long by 3 1/8" wide (it was what I had and I was too lazy to cut it) by 1" thick. The arms are 36" long by 1" wide by 1" thick. (Optional) Mark the pattern for the shape of your feet. Cut this out last.

The steel sleeves reduce wear on from the threads of the carriage bolt during use. The reason I used 1 1/2" was because I was told Home Depot didn't carry anything smaller. If you can get 1" sleeves, it will reduce the amount of cutting you have to do on them.

#### **FEET** (Fig A):

1. Measure 12" down the length of each foot and scribe a mark in the center of the THICKNESS of the wood (in my case 1/2" since my wood is 1 inch thick).
2. Now mark a line 1/2 inch on either side of the first mark. This will be for your mortises (Fig B and C). I marked mine all the way around both sides of each leg. Repeat for the other foot.
3. Between these lines measure half way up the width of your board (in my case, this was 1 5/8" since my total board width was 3 1/4") and mark a line. This is the top of your mortise.
4. To cut my mortises, I used my table saw. I set the blade to 1 5/8", set the foot against my miter sled and made several passes to trim out the waste. You could use a router as well.



**REMEMBER!!** You are cutting the **BOTTOM** of one and the **TOP** of the other. Mark which one is which **FIRST** and use a pencil to scribble out the waste area!! Then check it to see if it looks right. It is much easier (and less expensive) to **ERASE** rather than re-cut.

5. Once the mortises are cut, go back to the mark you made in step one. Assemble your pieces and drill a 1/2" hole through both pieces using this mark (check your steel sleeves for most accurate sizing). You should have one neat hole through both pieces!
6. On the base foot you will also need to countersink a recess for the carriage bolt to sink into (Fig D.) so that your feet sit flat. I used a 7/8" Forstner bit on my drill press.
7. Press or tap the stainless steel sleeves into the 1/2" holes. You may have to trim the bottom one about 1/2" to accommodate the bottom of the carriage bolt. I used a Dremel with a cutoff wheel, but a hacksaw works fine. The only purpose of these sleeves is to decrease wear on wood during use.



Fig D. Recess for Carriage Bolt

8. (Optional) Shape the feet as desired.

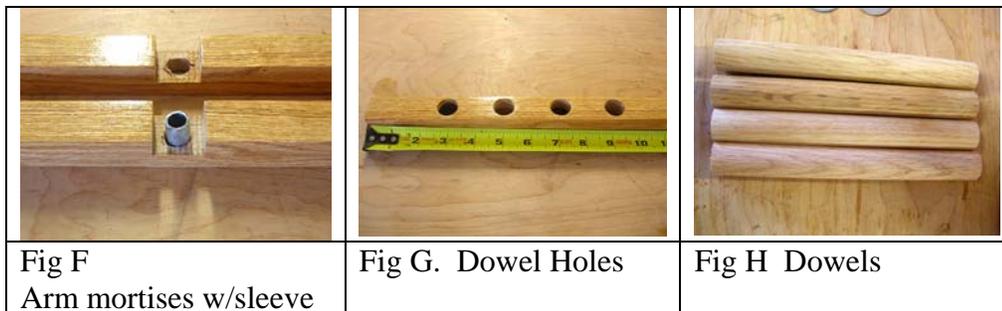
#### **ARMS** (Fig E):

The arms are simply 1" X 1" hardwood, cut to 36". They have 4 holes drilled in them to accommodate different sizes and weights of skeins. I drilled the holes all the way through because I screwed up and forgot to flip one of the arms over when I was drilling so I put one set of holes in upside down. Instead of making another arm, I just drilled the holes all the way through. I would suggest only drilling about 3/4 of the way through, though.



Fig E. Arms

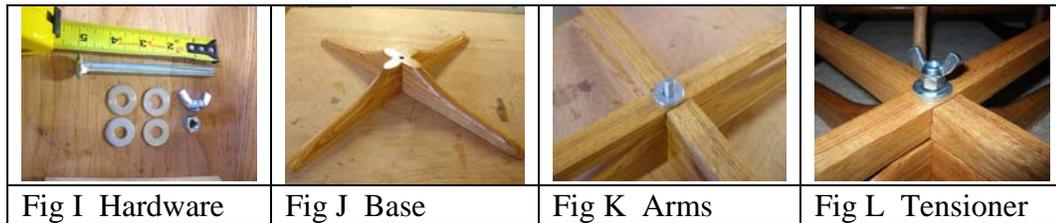
1. Rip two pieces of rough stock down to 1" X 1" X 36"
2. Measure 18" on both pieces and mark the spot for the center hole in the middle of this line (mine was 1/2").
3. Stack the arms on each other with the ends lined up. Clamp ends to hold the pieces together. Use drill press to drill a 3/8" hole on your center mark through both pieces (Fig F).
4. Using the same center mark at 18", now measure 1/2" on either side of it (on both pieces). This defines the width of your mortises.
5. Set the height of the table saw to 1/2" and cut out the mortises (Fig F). Test for fit. They should be flat to each other and not have any side to side play.
6. Finally, drill holes at 3", 5", 7", and 9" in from the end of each arm (Fig G). I just set up four stops on my drill press fence. That way they are all in the same spots on each arm
  - a. REMEMBER: If you are not drilling through holes, make sure to flip the pieces in the drill press so you don't end up with one set of holes in the top of your arms and one set in the bottom (like I did... heh...!)
7. Cut 4 lengths of 3/4" hardwood dowel at 6" each (Fig H). REMEMBER: Check the thickness of the dowels you buy BEFORE you buy them!!! Commercial dowels are notorious for tapering at one end! These will just be friction fit and may take some sanding to fit just right.
  - a. Another option here (albeit WAY more complicated than I wanted for a prototype) would be to drill a small hole in the center of each hole and one end of each dowel. Then use a machine head wood screw to hold the dowels in place.
8. Cut the last steel sleeve down to 1" and insert it in the arm you have chosen to be the bottom arm. Now insert the top arm into the bottom arm at your mortises.



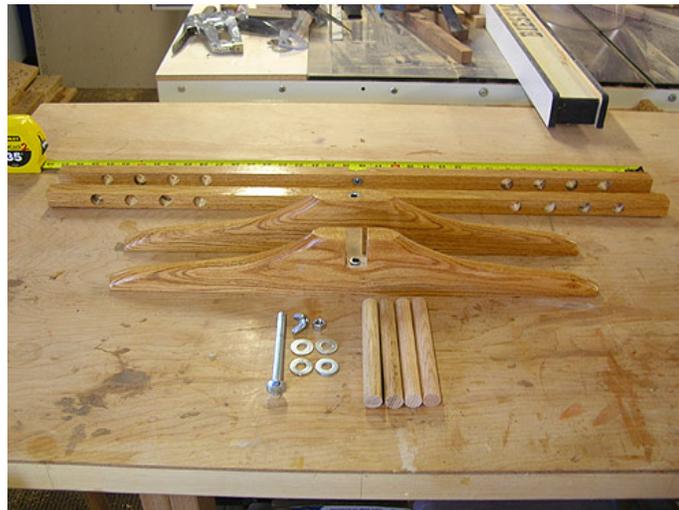
## ASSEMBLY:

Before you put a finish on the swift, check the assembly.

1. Assemble the hardware (Fig I)
2. Put the feet together and insert the 5" carriage bolt through the hole (Fig J).
3. Put two washers on the carriage bolt.
4. Slide the arms onto the bolt (Fig K).
5. Put two washers on top of the arms on the bolt.
6. Thread on the 3/8" nut and set it so that it is just snug, but not tight.
7. Thread on the wing nut and snug it up against the nut. The purpose of these two nuts is to give you a way to adjust tension. By tightening the nut just a bit with a wrench and then twisting the wing nut down on it, you can put a little bit of tension on the swift **WITHOUT** having it screw itself down tighter as you spin it clockwise or having it unscrew itself completely if you go counterclockwise (yes... I did that.) These two cancel each other out once tight up against each other, but they still keep the arms stable as they spin.



The nice thing about this design is it packs down into a small space. Just make a bag for the big pieces with a pocket in it for the small stuff and you are portable and ready to go!



Finish with whatever you like. I sanded mine (oak) from 100 grit down to 220, then finished with clear polyurethane (2 coats with a steel wool rub in between). I left the dowels bare wood so that they don't pass any color or chemical on to the yarn. They may discolor over time from the dyes in the yarn, but they are easily replaced. Enjoy!