WARP MEASURING WHEEL

MATERIALS:

1 measuring wheel (http://order.harborfreight.com:9100/EasyAsk/harborfreight/results.jsp)
4 automotive hose clamps with around 5" of tape to attach handles and block to wheel
1 thin (enameled) dry cleaner's hanger (bent into shape for the yarn guides with needle nosed pliers)
1 base (mine is 2 2x4's notched to create an X) with center hole to accommodate either the handle of the measuring wheel or the pole that attaches to the handle (your choice). Mine is 2 piece to allow me to use the base with my flax distaff which is removed for measuring. The weight of the 2 18" 2x4's won't allow it to tip over. If more weight is necessary put something on top the base.
1 piece of broom handle, old aluminum tent pole, etc. minimum 1' above base or more (those with sectionals that are high off the floor may want this more nearly on a level with your heck block.
2 rubber o rings to fit snugly against the wheel (to create a track between). Easiest to find at either spa or pool supply stores (used on filters).
3 or 4" piece of 1x2 to mount the eyelets and tensioner to (possibly smaller or larger in length).
6 med. Sized screws to attach tensioner and eyelets to block

Optional:

1 scavenged thread guide/ spring tensioner off an old sewing machine (look for a sewing machine repair). Maybe not so optional. I haven't seen any fibers that I didn't want to tension at least slightly but any friction system should work as an alternative. Adjustable is awfully nice to have.

ASSEMBLY:

Drill out the pop rivet holding the wheel assembly to the handle, turn around (counter facing downward so it reads from the bottom of the wheel) and secure with small screw through original holes. Attach the wheel on the handle upside down with 2 hose clamps to the base (see illustration). Attach the tensioner and eyelets with screws to the piece of 1x2. Attach the block to the pole so that there is enough space under the wheel for the upright eyelet - with 2 hose clamps (or get fancier...). Roll the 2 o-rings onto the wheel (they should fit snugly) leaving a small space in between to create a channel for the yarn to track in (adjust for yarn grist as necessary). Follow the thread path (see illustration) for measuring. Be sure that you've aligned the eyelets with the wheel otherwise the yarn won't stay on the wheel. Swing block around as necessary to do so (see illustration).

I've successfully used this on a single thread in a sectional as a counting thread as well as straight measurement (from or to bobbins from skein winders, swifts, etc.). They all work equally well. At the time mine was built it cost less than $25 (quite a few parts were scavenged or bits and pieces from other projects). In a test over 20 yards (over the same yarn) inaccuracies were a bit over 3%, however your wheel may not measure to the same degree of accuracy as mine. I make no claims for the accuracy of this equipment or any loss that might occur from it's use. I simply offer it as an alternative that has worked well for me. It has been useful with fine silk sewing threads as well as heavy yarns.

Cj. Aberte
12/1/2003

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Some views slightly exploded
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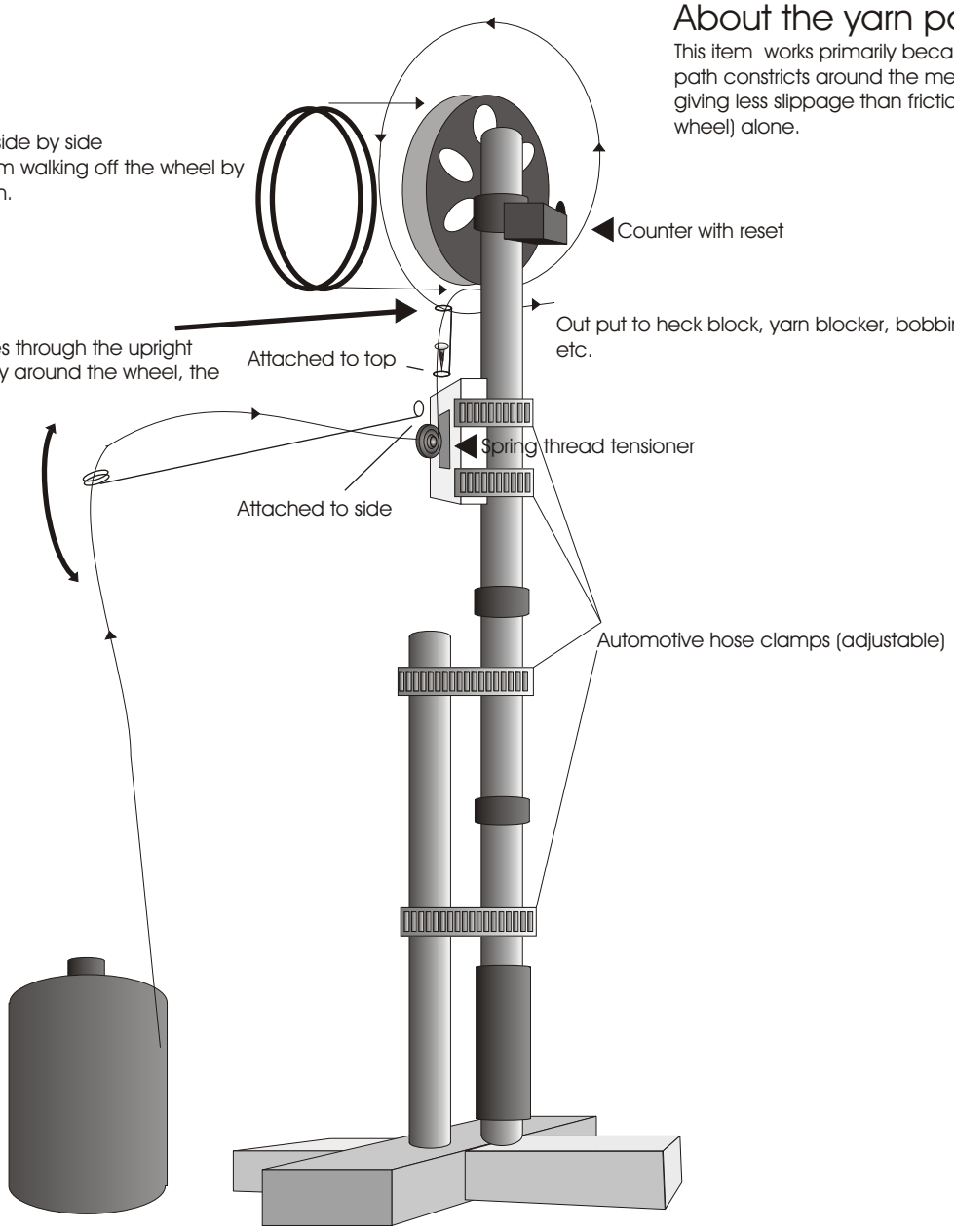
12/1/2003

About the yarn path:

This item works primarily because the yarn path constricts around the measuring wheel giving less slippage than friction (across the wheel) alone.

O-rings slipped onto wheel rim side by side
The O-rings prevent the yarn from walking off the wheel by providing a channel for it to sit in.



IMPORTANT:

Make sure that the yarn passes through the upright eyelet twice. Once on the way around the wheel, the other as it exits!