

**Libraries on the Loose!**

A Little Free Library Design Build Competition

**Date: August 27, 2014**

**Spinning Stories**

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**Project Location:**

100 NW 79<sup>th</sup> St.

Seattle, WA 98117

**Supplies:**

(2) bicycle wheels of the same size, front and back, with tires. Must be "quick release" wheels.

(2) Bicycle handlebar wrap

(1) 24" #10-24 threaded rod

(2) #10 washers

(2) #10-24 lock nuts

(1) 5/8" x 1" solid steel spacer

(8) 1/4-28 Allen bolts

(1) 72" steel plumbing pipe, 1-1/4" inside diameter

(6) small eye/eye turnbuckles, sized to preference

(1) golf umbrella

(1) bucket

(1) 50 lb bag quikrete

**Tools Needed:**

Visegrips

Crescent Wrench

Allen Key, sized to allen bolts

Tap, sized to allen bolt threads

Drill Bit, sized to tap

Power Drill

Bicycle Cassette and Freewheel Removal Tool

Shovel

## Assembly Instructions

allow 1.5 hours for assembly, as the concrete needs time to cure

1. Remove quick release bicycle wheel skewers from both wheels.
2. Remove bicycle cassette cogs from the rear wheel.
3. Unify the two wheels by sliding the 24" 10-24 threaded rod through the two axles, with the 5/8"x1" solid steel spacer between the two wheels. Be sure that the cassette hub faces to the outside of this assembly.
4. Slip one #10 washer and one #10-24 lock nut onto both sides of the threaded rod. Tighten the nut located on the same side of the cassette hub  $\frac{1}{4}$ " onto the threaded rod. Tighten the other nut down completely, until tight.
5. Open the eyes of the turnbuckles with visegrips so that the spokes of the wheel will pass through.
6. Loosen the turnbuckles, and attach to either wheel at their spokes. Tighten the turnbuckles, one at a time, until the wheel assembly is rigid and behaves as one.
7. Tightly weave the handlebar tape through the spokes of the wheel with the cassette hub.
8. Drill and tap (8) holes within the top 1.5" of the 72" steel plumbing pipe. The tap needs to be 1/4-28 thread (the same as the allen bolts).
9. Slip the cassette hub of what was the rear wheel into the end of the pipe with the tapped holes. Insert and tighten down the allen bolts, locking the wheel apparatus to the pipe.
10. Dig a hole the size of your bucket where the library is to be located. Insert the bucket, empty the 50# bag of quikrete into and add specified amount of water.
11. Stand the current assembly into the bucket of concrete. Plumb and brace, allowing the concrete to cure for the specified duration.
12. Once the concrete has set, remove braces.
13. Open the umbrella, and measure the length of the handle needed to obtain a canopy of desired height (roughly 72" above grade). Cut and remove what is not needed.
14. Slide the hollow handle of the umbrella onto the threaded rod.
15. Insert your collection of books through the spokes of the top wheel and allow to rest on the handlebar tape.