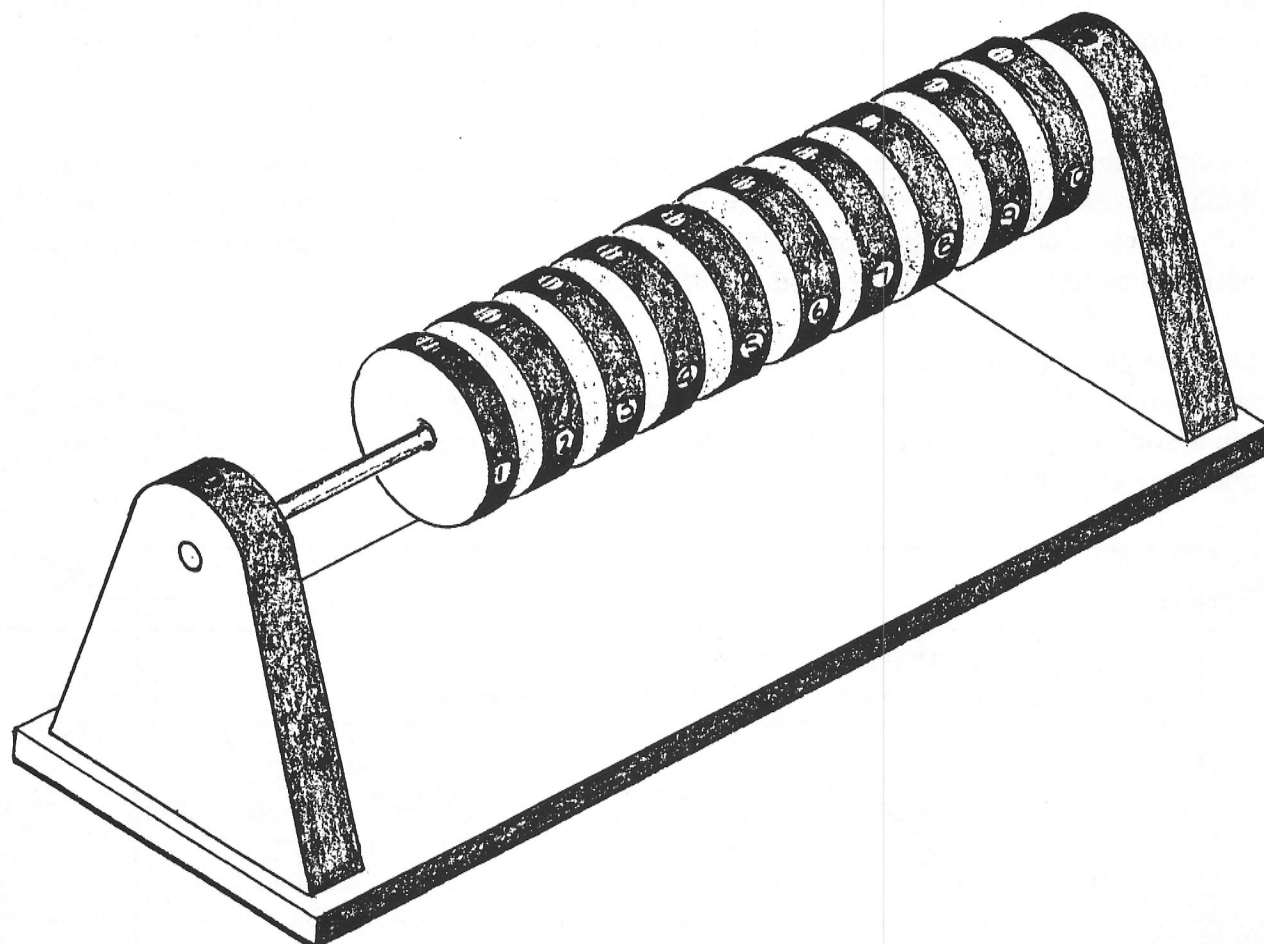


This Counting Toy makes counting a concrete, visible activity. The numbers should be arranged left to right as in reading, or from right to left as they show up on a hand held calculator. This toy can even be numbered to teach the multiplication tables. It can fit many needs.

MATERIALS NEEDED

- One 15" x 5" piece of 3/8" birch plywood
- Two 4 3/8" x 4 1/2" pieces of 3/4" birch plywood
- One 14 3/4" x 3/8" diameter birch dowel
- Ten flat wheels 2 1/4" diameter available from Cherry Tree Toy (See Some Sources of Specialty Items at bottom of Table of Contents.)
- Ten flat wheels 1" in diameter (See Some Sources of Specialty Items as above.)
- Six #6 1" flathead Phillips screws
- Non-skid material and contact cement to bond to bottom
- A package of 1/2" diameter Avery self-adhesive removable labels, #R-808
- Elmer's Carpenter's Glue
- Varathane, or equal, spray paint in two colors and gloss varnish



TOOLS NEEDED

- Table saw
- Drill press or power drill
- Set of drill bits
- Large arc-joint pliers for holding flat wheels when enlarging the center holes
- Folding rule, pencils, brushes, miscellaneous small clamps

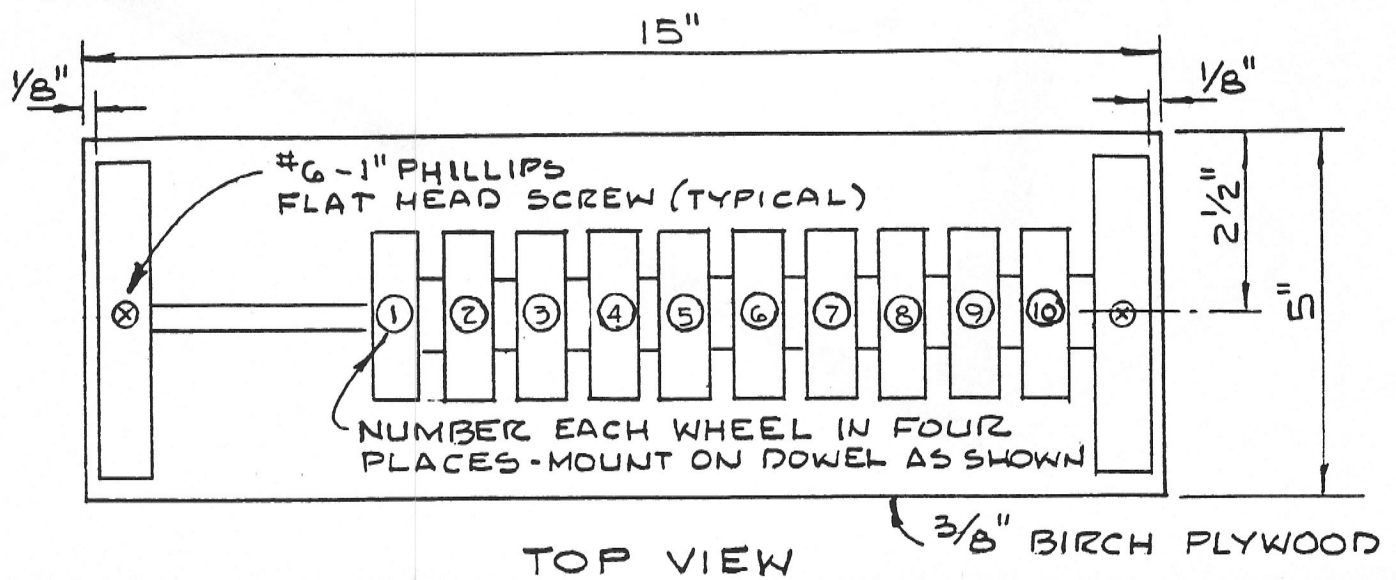
CONSTRUCTION SUGGESTIONS

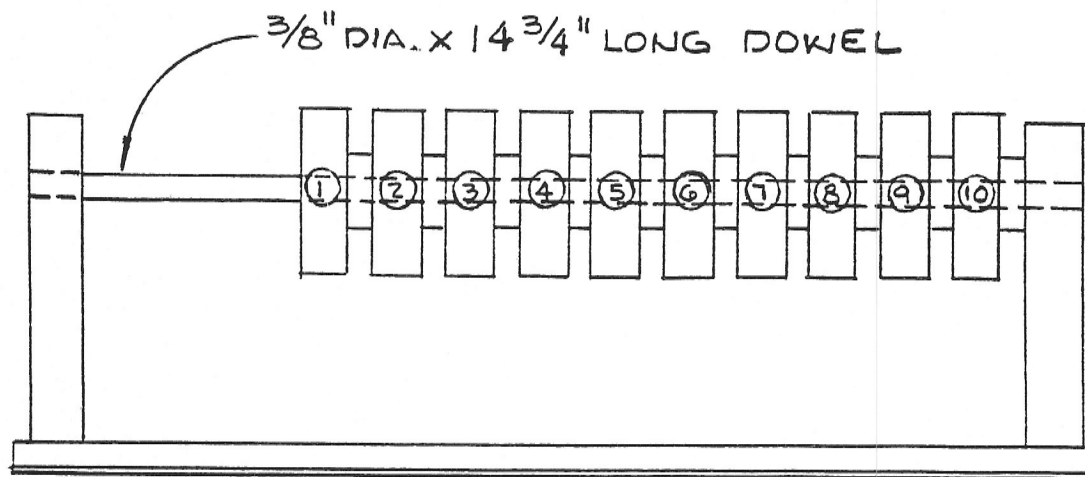
Cut out the 15" x 15" base piece. Cut out the side supports and drill the holes for the 3/8" dowel. Sand the three pieces smooth, rounding the corners. Use a 7/16" drill bit to enlarge the holes in all the flat wheels. Put glue on one surface of a 1" flat wheel and on a 2 1/4" flat wheel using a scrap piece of 3/8" dowel a little over 1" long to center the two flat wheels. Clamp the two flat wheels together until the glue sets enough to hold firm. Repeat for all the flat wheels.

Make four marks equidistant apart on the flat edge of the large flat wheels. Stick a 1/2" diameter self-adhesive label over each mark and roll on tightly. Spray the wheels a bright color on both sides. When totally dry, carefully peel off the labels. Use a felt-tip pen to mark one number in the four blank areas on the wheel. Mark all wheels with numbers in this manner, then spray the numbered wheels lightly with varnish. Varnish the 14 3/4" x 3/8" dowel and sand smooth.

Assemble the side supports as described in the Side View drawing, using two 1" #6 flat head Phillips screws through the bottom piece and into each side support. Spray paint the assembly with two coats of a color that contrasts with that of the flat wheels. Using contact cement, put non-skid material on the bottom and trim the edges.

Slide the dowel through one support hole and put on the flat wheel sets in numerical order as was planned, then slide the dowel into the other support hole. Drill a small hole down from the top of each support and into the dowel. Use a countersink to provide for the flathead screw, and drive a screw into each hole.



FRONT VIEW

COVER UNDERSIDE
WITH NON-SKID
MATERIAL

