

Project #17: Paddlewheel steamer

Materials:

scrap lumber
thinner scrap--pieces of lath or a broken yardstick
heavy rubber bands
jigsaw

Cost:

Zero

Instructions:

- A. Cut boat shape from scrap lumber, following design. It can be larger or smaller. Cubes of scrap can be added for deckhouse and cabins. Call your local lumber yard for low-cost scrap.
- B. Make the paddlewheel from the thinner scraps. It can be single or double, as shown. If double, glue the pieces together with waterproof glue and let dry.
- C. Stretch the rubber band across the stern, insert the paddlewheel and wind until the rubber band knots twice.
- D. To sail, just put the boat in the water and let go of the paddlewheel. The water holds back the rotation a little, so the boat should go quite a distance on one winding. Your Den can race them if you have a calm body of water.

Variations:

A jet boat can be made by attaching a balloon to the boat with its end pointing sternward. Blow up the balloon and when it deflates it propels the boat like a hurricane. Or you can make a genuine imitation steam boiler: Take a frozen juice can with a plastic lid and punch a hole big enough for a straw in the side about $1\frac{1}{2}$ inches from the bottom. Glue the can to the boat, put the straw in the hole (seal with wax or chewing gum) and fasten the other end to the center of the stern. Place a couple of teaspoons of baking soda in the can, pour on vinegar and replace the lid. The carbon dioxide gas coming out through the straw will propel the boat.