My Boat has a Rudder!

A rudder is an example of a lever that was used constantly on the canal. A lever can be described as a long rigid body with a fulcrum along its length. Load: The object you're lifting. Fulcrum: Point at which the lever pivots. Effort: The force applied to make the object move.

**PARTS OF THE LEVER**

- **Fulcrum**: Point at which the lever pivots.
- **Effort**: Force applied to move the object.
- **Load**: Object lifted.

**MATERIALS**

- Sponge, hot glue gun, 4 popsicle sticks, construction paper, scissors, markers for decorating

**TIME TO MAKE THE RUDDER**

Glue the 3 other popsicle sticks like this.

**PUT IT IN WATER AND SEE HOW IT DOES, CAN YOU TURN THE BOAT?**

The sponge will be your boat bottom. Cut a triangle or a square for your sail out of construction paper. Take 1 popsicle stick and push it into the center of your boat; you may need to use the scissors to slice a hole for it. Fold your sail in half and cut 2 small slits in the fold in line with each other so that you can put the sail on the popsicle stick.

**NOW ADD THE SPONGE BOTTOM**

You want to push the rudder "stand" into the sponge and make it so that it can swivel back and forth within the sponge.

Why do you think this kind of lever was so important to canal boat captains?