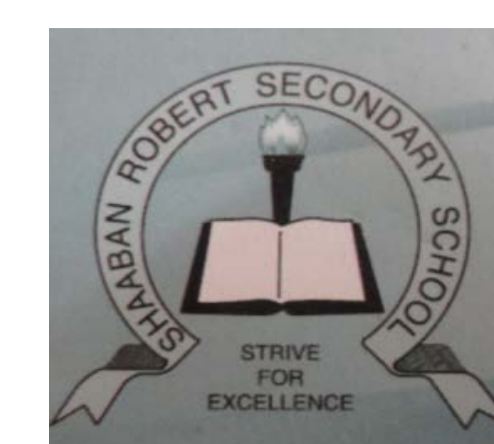




Pot-Pot Boat

41. Shaaban Robert



Daljit Kaur Matharu and Anjali Ranjit Lodhari

Introduction:

A **pop-pop boat** is a very simple steam engine boat without moving parts, typically powered by a candle. The name comes from the noise some versions of the boats make. Other names are putt-putt boat, crazy boat, flash-steamer, hot-air-boat, pulsating water engine boat.

The boat has a wide surface area and is less dense than water that enables it to float. To make it moving a boiler is used which is heated by the tea light candles. The boiler is made of the fanta (soda) tin connected with straws which come down of the boat as an exhaust.



Method:

Fanta (soda) tin, two straws, silicon, aluminum foil, cardboard, tea light candles, hard paper.

Steps used in making of the boat:

Designed the hard paper into a shape of the boat.

Covered the boat with aluminum foil.

Made a steam engine by cutting the fanta tin into a rectangular shape and making a boiler out of it by joining the two straws from it.

- After making the boiler a small hole was made at the center of the boat which took the extended straws through the hole
- Used silicon to seal the hole and seal any place where there risk of any leakage.
- The tea light candles are used for production of heat which exerts pressure hence the boat moves



Results:

The heat of the tea light candle converts the water in the boiler into steam which creates great pressure and forces the water to move backwards out of the boat, hence it makes the boat to move in the opposite direction that is forward. Hence; this process continues. When the tea light candles are put off, there is no conversion of water in the boiler to steam thus there will be no any pressure exerted; therefore the boat does not move

As the candle burns, it heats the air around it. As you are probably aware, warm air rises. This is a convection current.

When the rising air hits the sail, it is deflected from its vertical path, which exerts a small, but real, force on the sail. Since the sail is fixed to the boat, the boat moves.



The Put Put BOat

Conclusions

Our research is based on the question "can a boat work on a candle?"

After our research and this experiment the answer is "yes, it can"

The importance of this research in our daily life is that:

- Big boiler/steamer ships can be used instead of fuel ships which cause water pollution by oil spills and hence death of aquatic life underwater. Thus this can be saved by boiler ships.
- Fuel can be saved as energy for other purposes instead of being consumed by big ships at large amount. As fuel is not one of the renewable sources of energy

References

Sources of information used for this project are:

www.wikipedia.org

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