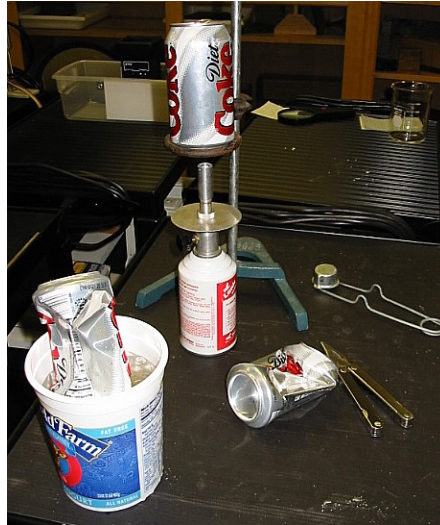


Imploding Pop Can



Setup

Purpose: Demonstrates the consequences of a sudden change of state.

Here, ice water rapidly condenses steam to produce a quick, dramatic implosion. Thomas Newcomen used this effect in his early piston steam engines: a jet of cold water was injected into the cylinder to condense the steam. James Watt became famous as the granddaddy of steam engines by improving this machine's efficiency. The water jet cooled the cylinder down on each cycle, so Watt introduced the idea of a separate downstream condenser.

Note: Fill a bucket almost to the brim with ice water. Heat a small amount of water in the pop can until you can see the steam escaping. With a glove on, quickly turn the can upside down in the water. Be ready to do the demo several times.

Extra Equipment: Everything: Small bucket, butane torch, striker, ring stand and ring, and gloves.

There is/was a supply of pop cans in the GP shelves, however if not you will have to raid the recycling bins. Also, in the red tray with

the cans is a *small* ring for the ring stand. This fits the pop cans pretty well.

Location: All in the GP cabinet.