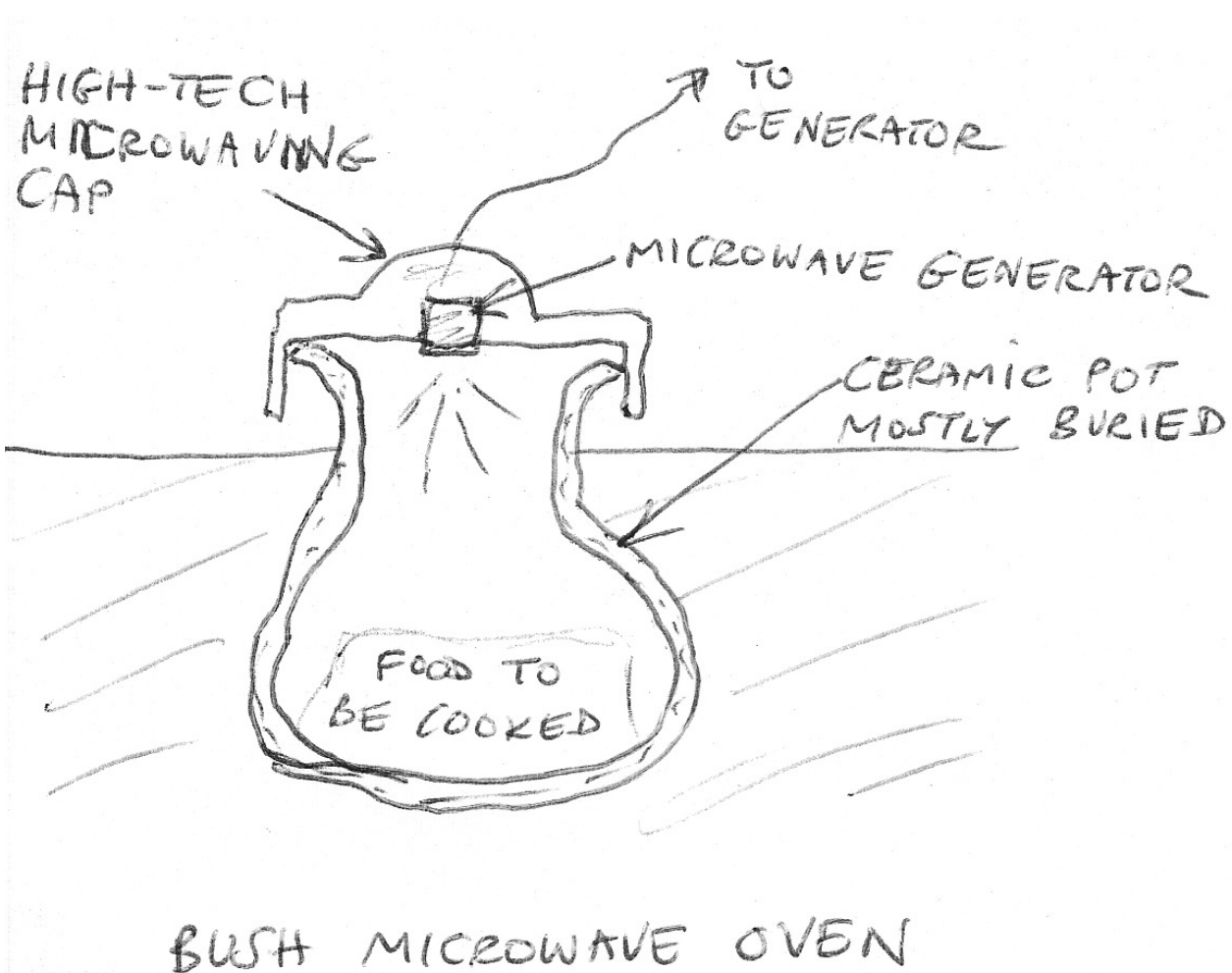


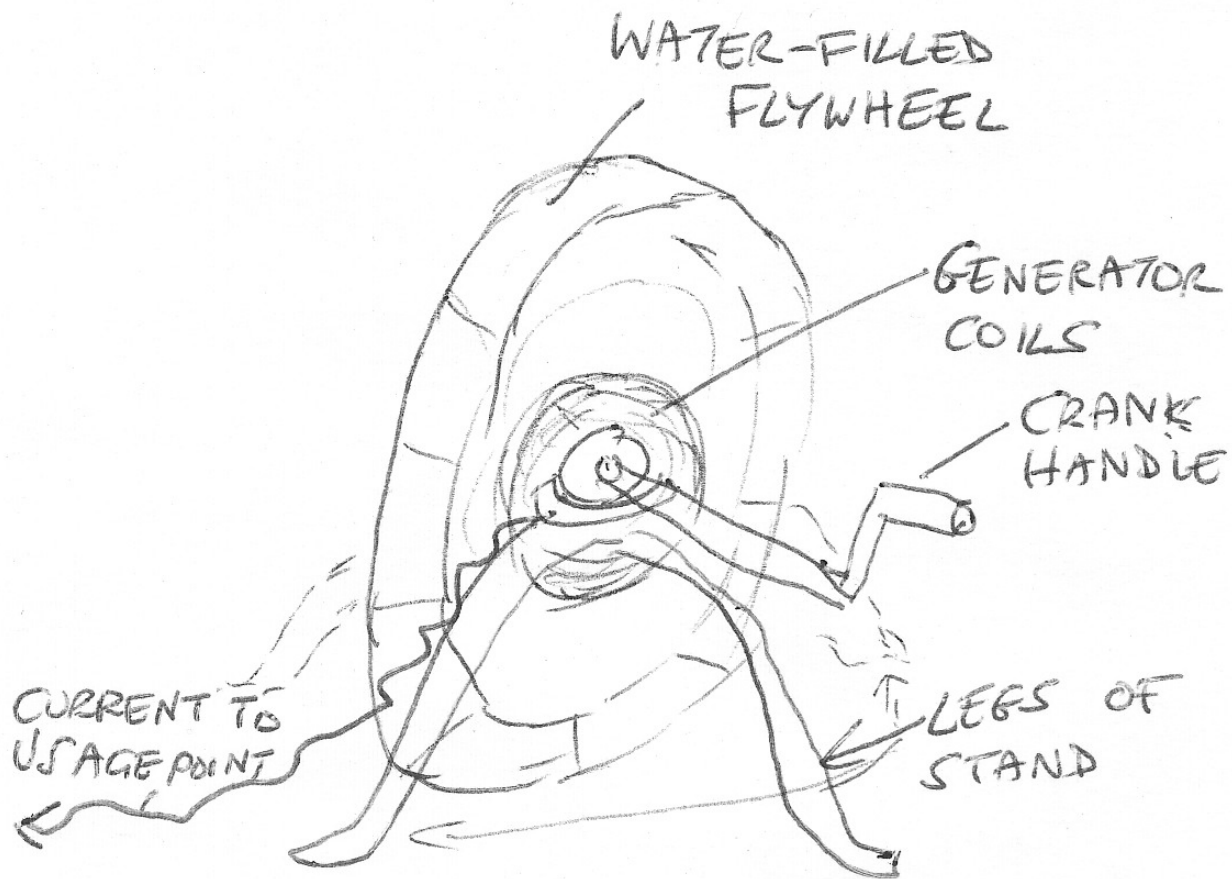
A primary cause of harmful deforestation and loss of vegetation cover in poorer countries and remote regions is the harvesting of plant parts for cooking fires. Imported fuels such as kerosene may be impracticable or unaffordable in remote regions. Search for twigs and dead plant material for fires may involve walking for kilometres each day, which may take hours.

Humans cook food to make hot meals from ingredients which may be unsafe or inedible if raw, for example many legumes require cooking to become digestible. Also flavours may be improved by cooking.

This zomb requires an analysis of how a manually-powered flywheel generator can run a simple but safe microwave cap, to cook food in a locally-supplied ceramic pot buried in the ground.



The microwave cap and the flywheel generator components would be fabricated in an industrial country and supplied to the users. Cooking pots with standard rim size would be produced and fired locally.



WATER-FLYWHEEL GENERATOR

Normally the cooking pot would be buried in the ground, with just the rim showing. Safety devices would be incorporated into the microwaving cap so that they would not operate unless microwave emissions were directed only into the pot.

Power for the microwaver would be produced from a simple hand-operated generator with a hollow plastic or similar flywheel which the user would fill with water. The wheel might be either horizontal or vertical.

The catcher would need to analyze practical limitations as to the power that could be produced manually with such a flywheel generator, for periods needed to obtain good cooking. A normal microwave oven with a rating of 1000 W may take 2–10 minutes to cook food, depending on its nature and mass. Lower-rated ovens and larger masses would take longer.

Users would perform a simple assembly of flywheels and fill the circular rim with water to supply inertial mass.