A step-by-step guide to using a Storm Kettle

Introduction

Storm kettles are often referred to as **Kelly kettles** or **volcano kettles**.

In the early 1900s, in the western part of Ireland, crofters constucted simple water boilers using hand tools. They were normally made of copper and took many hours to produce.

These water boilers were also used in the summer months to easily and quickly boil water for tea, by enthusiastic fishermen who visited Ireland regularly to enjoy the splendid fishing.

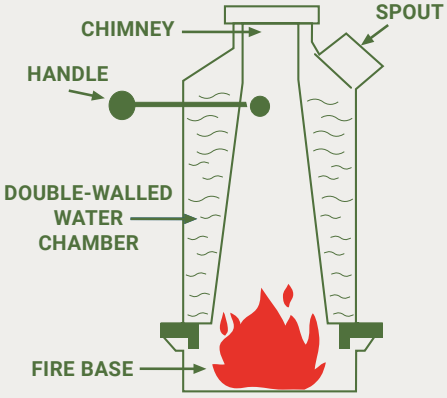
In the early 1970s John Grindlay (of the Eydon Kettle Company) and his colleagues decided to manufacture the kettles in quantity, so that they could be made available to outdoor enthusiasts all over the world. John borrowed an original copper kettle and took it to England where tooling was manufactured and the first ten kettles were produced. These were very quickly sold, for £10 each, in 1979.

Today, John still produces the storm kettle in the UK and they are used on all continents of the world. The storm kettle has quickly become a vital and important piece of kit for all outdoor enthusiasts, survival and bushcraft experts.

What is a storm kettle?

The storm kettle is a water heater that uses twigs and other materials easily found in woodland as fuel. Using a storm kettle means you can boil water easily, in the wettest and windiest of weathers, both rapidly and safely.

The structure is a water-jacketed double-walled aluminium chimney with a removable aluminium fire pan. A small fire is built in the pan, the water-filled chimney is placed over the fire, and the fire heats the jacketed water. The heating process is speeded up by the draw effect of the chimney pulling air in through the bottom and feeding the fire in the base.



Cross section diagram from Kelly Kettle instruction leaflet

These kettles are an excellent way for groups to observe many aspects of the fire triangle (heat, fuel, oxygen), and concepts such as fuels, heat, convection, radiation, chimneys, boiling temperatures of water, etc, whilst producing a lovely hot brew at the same time.

Storm kettles come in two sizes, the **Original** and the **Popular**. The Original will boil up to 2.5 pints (approx 1.5 litres), the Popular up to 2 pints (approx 1 litre).

Preparation

Clear the immediate area around the kettle - to prevent surrounding materials catching alight through direct contact with flames or through heat radiation.

Find a stable position - due to the small base area and high centre of gravity, when these kettles are full they can easily become unstable, topple over and cause injury. To prevent this from happening:

- prepare a level, stable position to sit the base upon
- ensure that the kettle is not knocked or banged during use.

Increase oxygen - position the base so that the hole is facing towards any wind.

Collect all required materials - tinder, kindling and fuel, and fire steel or matches.

Fill the kettle - pour the correct amount of water into the spout (if too full it will bubble over when boiling).

Place the kettle on the base securely - ensure no debris is caught in the rim which will make it unstable.

Additional safety considerations

Group safety rules - ensure roles have been allocated to group members and that everybody is clear about the safety rules.

Safety distance - everyone should remain outside an agreed safety zone except for the people tending the fire. The zone needs to be big enough to ensure that the kettle or the people tending the kettle will not be knocked into.

Movement near the kettle - people tending the kettle should be knelt down at all times, except for when moving away. To do this they should move back and stand up, then back out of the zone, away from the kettle.

Communication - the people tending the kettle need to inform each other clearly of what they are about to do.

Pressure - always check that the cork bung has been removed before heating the water. If the bung is left in pressure can build up in the kettle causing the bung to fly out, spraying boiling water or making the kettle topple over, which both have the potential to cause serious injury.

Lighting the kettle

With a fire steel

If you are using a fire steel to light the fire, fill the base with tinder and use the steel or another ignition source directly onto the tinder in the open base. Once this has caught add more tinder and then gradually add kindling. Once a very small fire has been established put the kettle over the fire. Check there is no debris in the rim and beware of any heat rising through the hole towards the handle.

With matches

Alternatively, if you are using matches, set up the tinder in the base and place the filled kettle in position. Then light the tinder in the base through the hole. Gradually add kindling through the hole in the top of the kettle, making sure each piece catches alight. Once the kindling is burning well add the fuel. Make sure that all fuel is short enough to drop into the cavity and is not poking up through the hole.

WARNING: never look directly down the chimney to see if the fire is burning as hot air and ash may cause burns to eyes and face.

Boiling water

When the kettle starts making a strange gurgling noise or you can see water bubbling near the spout this indicates that the water is boiling.

Removing the kettle from the base

WARNING: this is a potential time for injury so take care.

Using protective fire gloves, take hold of the carry handle with one hand and swiftly lift the kettle off the base. Watch that the base doesn't stick to the kettle.

Alternatively hold the carry handle with two hands at a right angle to the kettle and lift it off.

Pouring the water

Line the cups/pans up on stable ground. Do not hold cups when pouring as spillages could cause burns.

Check the pouring chain is cool enough to touch as it often gets hot.

Using heat resistant gloves, hold the carry handle in one hand and pull the chain up with the other, this will tip the water out of the spout into the cups.

If the chain is too hot to touch or has been removed, use a strong stick placed inside the bottom of the chimney, with your hands well away from the kettle, and use this to lift the bottom of the kettle up and pour the water.

Handy hints

Oxygen - you can assist the fire by gently blowing through the hole to increase the amount of oxygen reaching the fire. Make sure you are not too close to the kettle and there is no potential for the kettle to fall onto you. As the fire heats it should naturally rise up through the chimney, drawing air into the base through the hole, automatically feeding the fire with oxygen.

Aluminium - is lightweight, but it is a relatively soft metal that can easily be dented if not maintained correctly. Poor maintenance can lead to the base staying attached to the chimney when taking the boiled water off the heat. This could cause the person carrying the kettle to have their hand over the heat for a sustained period.

Bung - keep the bung in the kettle when not in use, to prevent dirt and debris getting into the water compartment – but take it out when lighting the fire/boiling water.

Base - when not in use, turn the base upside down – it fits neatly into the main chimney for easy transportation and storage.

Avoiding burns - to reduce the chance of the bung being used when heating water, and the risk of burns from the chain, some people choose to remove the bung and chain completely. If you do this you must set up a safe alternative for pouring the water.

Take it further: Try cooking with the storm kettle using the storm kettle cooking kit.

Poppin STORM Kettle Kit

The kit includes a black powdercoated Poppin STORM Kettle and base with a separate anti-tilt pan support, two piece grill, saucepan, frying-pan and universal handle grip. It also includes a jute STORM Carry Bag.

Visit the **Muddy Faces shop** for all our storm kettles and accessories; pan supports, tripods, kettle bases and pan holder handles.

Disclaimer: *Muddy Faces cannot take any responsibility for accidents or damage that occurs as a result of following this activity. You are responsible for making sure the activity is conducted safely.*