

# FIRE BY FRICTION

## BOW DRILL

### COMPONENTS OF A BOW DRILL SET -

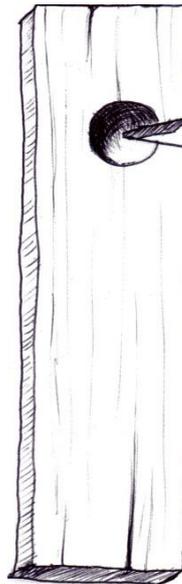
BOW & CHORD



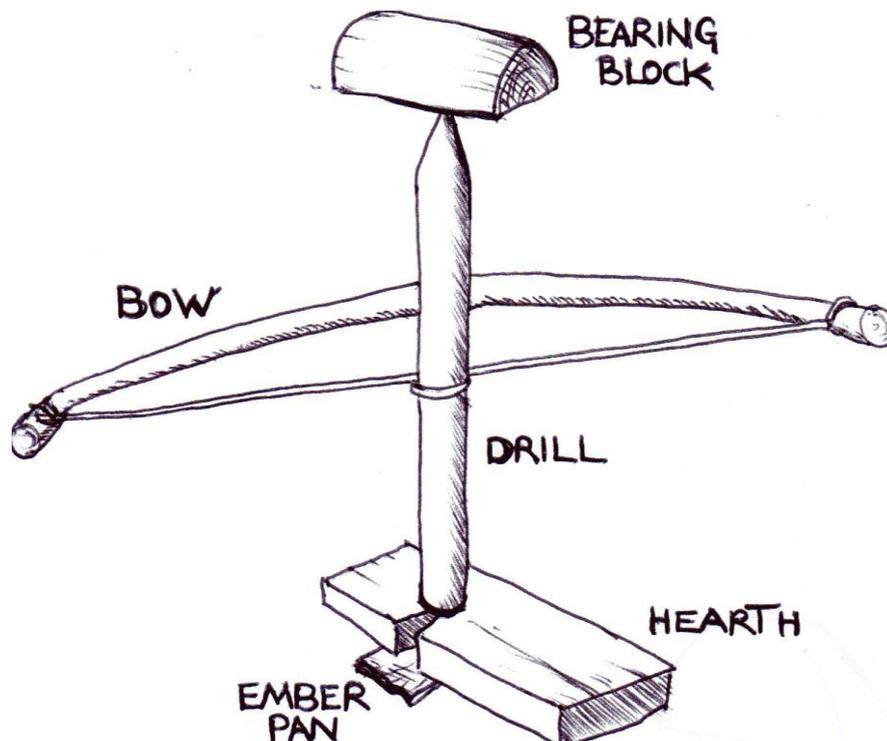
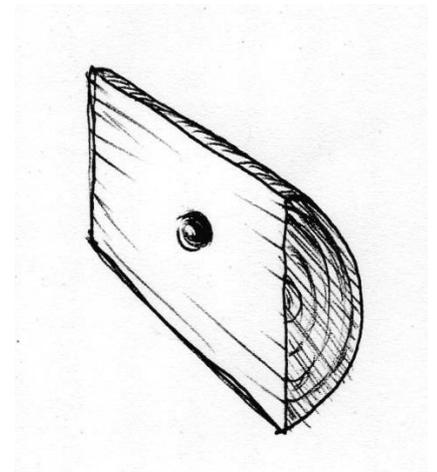
DRILL



HEARTH



BEARING BLOCK



## BOW

Choose a rigid length of curved branch, 60 – 70cm in length.

Cut notches either end to tie para-chord or mower pull-chord. Chord should not be a little loose.

## DRILL

Choose dry, dead, standing wood. Wood from floor will likely be wet and rotten.

Cut a 15cm (or more) length and carve to a round thickness of approximately 2cm. One end should be pointed like a blunt pencil (less friction) and the other nearly flat with just a shallow point (more friction).

## HEARTH

Cut and carve a rectangular piece about 2cm thick and 4cm (or more) wide.

## EMBER PAN

This is a dry piece of bark or large wood shaving to collect the hot ember.

## BEARING BLOCK

Select a thick lump of wood that fits comfortably in the hand. Flatten one side.

- Carve a shallow notch in the hearth to sit the blunt end of the drill, and carve a notch in the bearing block to sit the pointed end.
- Twist the drill into the bow chord so it is positioned on the outside of the chord, not the inside or it will jam against the bow branch and also shorten your bowing length.
- With the drill seated in the notch on the hearth, place the bearing block on top of the drill with your wrist firmly supported against you shin. A limpet shell can be used within the notch in the bearing block which will help avoid rapid wearing down of the drill.
- Holding the bow at one end, push and pull the whole length of the bow. This increases the amount of drill rotations. Do not bear down too firmly at this stage. Eventually establish a blackened crater within the notch so that the hearth and drill are both comfortably 'burnt in'.
- With a knife or pruning saw, cut out a V notch into the centre of the burnt crater on the hearth. This should be approximately 45 – 55 degrees. This V will collect the hot dust and hopefully your glowing coal. If too much dust is produced around the drill base the V notch will need to be wider.
- Now you are ready. Do not stop as soon as you see smoke, this is just the start. Keep drilling and increasing downward pressure until you are producing plenty of black, smouldering dust.
- Gently separate the collected hot dust from the hearth, without disturbing the pile. Allow air to the ember pile, gently fanning or blowing. When it is glowing red it is ready to transfer into a tinder bundle.
- Blow into your tinder bundle with the wind behind you, turning your face away to take a breathe, otherwise you will inhale the smoke and risk loosing control of your prize.

**FIRE!**

## BOW DRILL, FRICTION WOOD

Soft – Lime, Horse Chestnut, Clematis, Ivy.

Slightly harder - Sycamore, Willow, Western Red Cedar, Spruce, Birch, Alder, Elder.

Harder - Hazel, Ash, Rhododendron, Gorse.

Using the same type of wood for the drill and the hearth will generally produce consistent results. Using combinations will also work but the drill should generally be of a harder wood than the hearth, and the bearing block of harder wood too, otherwise the drill top will wear and burn through the bearing block quickly.

Sourcing out your material can be time consuming and will take practice in recognising the material that is worthy of making fire by friction. Pruned or salvaged branches can be cut and carved when green and then left to dry and season.

Sycamore is a very good choice of wood to use. Being quite an invasive and fast growing tree it can be regularly pruned, and can be easily found in most places.

