Learning the Hand-Drill Method for Fire-by-Friction
by Kato Haws

Friction fires are not very practical, but they can be fun. The hand-drill method is less technical than the bow-drill method. You can learn to do it. The following are some ideas of how to proceed:

Cut a 3/8” dry horseweed stalk about 24” long for your spindle, and check to see if it is straight. (Horseweed is very wide spread. See Wikipedia for pictures of horseweed).
If necessary straighten the spindle using a heat source. Heat it, bend it, remove it from the heat source, and hold it straight as it cools.
It is important to have a straight spindle. It is possible to find horseweed stalks that are straight, it just takes more looking.
Cut or split a baseboard of white cedar fencing (no hole cedar) from the lumberyard about 11” long and 3/8” thick. I personally mark the board with a straight edge and a pencil and then cut it with a saber saw, but many methods can be used. A table saw would be ideal if you have one and know how to use it properly.

Using a knife make a 3/8” dimple about an inch from the end of the baseboard.
Spin the spindle in the dimple to seat it in. You don’t have to get actual smoke at this point. The main thing is to make sure exactly the spindle wants to spin before proceeding.

Cut an inverted “V” from the edge of the baseboard toward the center of the dimple. A sharp knife is need for this.

Cut the inverted “V” into the dimple half way, or almost half way.
Clamp the baseboard to a firm table top with folded paper or cardboard underneath to catch the sawdust. Spin the spindle trying to produce smoke. Give brief bursts of speed and pressure occasionally to get maximum smoke.

NOTE: if the sawdust collects around the spindle tip, instead of in the notch, widen the top of the notch a little and cut it all the way to the center of the hole.
Hold the spindle momentarily as you shuttle your hands from the bottom to the top each time you get near the bottom.
Try to get a lot of smoke and sawdust so you can get a coal, but stop before your hands or shoulders are thrashed.

Skip three or four days before practicing again.
Before using the spindle a second time, make sure the end is cut off flat, so as to maximize contact on the outer edge, not on the center. The spindle tip on the left has been cut off nicely, but the one on the right still needs to be trimmed off.

If a bump develops in the center of the baseboard hole remove it with the point of a knife, so as to maximize pressure on the outer edge of the hole, not the center. (A prominent hump exists in both of these holes, and needs to be pried out).

Toughen up your hands gradually. If you try too hard before you are ready you can tear the skin off your hands. That hurts a lot and slows the toughening process.
When you have more confidence try holding the baseboard on the ground with your foot.
Or have a partner hold the baseboard with their foot,

Or their hands.
Getting a coal with two people is twice as easy. Have a partner spell you on the spindle every two or three passes.