

The bowdrill

Primitive fire-making by the American Indian manner is very practically. I have made it several hundred times even in rainy weather and in the winter. It works without special trick or mystery.

Cut first a V-shaped notch into the side of the fireboard, which is about 2 cm deep. The point with the notch is to do friction for the spindle to producing smoldering black dust and collecting this dust, forming a coal. Make first a hole to hold the drill in place, with the point of a knife ca 0,6 mm from the bottom of the notch.



Place the fireboard on level ground and slip a thin piece of bark under the V-shaped notch. Place the left foot steadies on the fireboard. Wrap the cord around the spindle and set one end of the drill into the fireboard depression, the other end held in place with the hand grip. Brace the left wrist up against your shin. Now slowly, begin to move the bow backward and forward. When spinning smoothly, apply some pressure with the hand socket.

Soon begin black dust running in the notch. When the smoke is billowing and black dust is piling up in the notch, give a few more cranks on the bow. A live coal should be formed, but that is only half of the story.



There is a glow inside, often invisible but still hot in a couple minutes. Pick up the glowing ember with the bark and set it on the tinder bundle. Cradling it in your hands, blow steadily.



Growing brighter and brighter orange, the coal and bundle will burst into flames. All this takes about one minute.

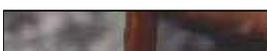


Failure depends on that if you don't support the left hand enough, your hands get tired and the drill flip in the air. Or the black dust is not running in the notch. The hole is then too far from the notch.



Drilling by hand

The basic principle for making a fire with a hand drill is the same as that for making one with the bowdrill. Instead of using a bow and socket, the drill is simply twirled between the palms of the hands.



Make first a hole to hold the drill in place, with the



point of a knife ca 1½ cm from the side of the 1½ cm thick fireboard. A spindle of mullein with a straight cut end, puts into this hole and spin until the first wisp of smoke begin appearing. Not until now you can cut first a V-shaped notch into the side of the fireboard. The point with the notch is to do friction for the spindle to producing smoldering black dust and collecting this dust, forming a coal. The best notches have a form of an isosceles triangle, so the inner corner just about reach to centre of the hole.

Place the tinder (shredded bark of juniper) in the notch under the hole and begin to spin te drill again. In twirling the drill, the hands will gradually work down toward the base of the drill, when they are passed quickly to the top and the movements repeated.



The twirls have be going on until black dust running in the notch and begin to smoke. There is a glow inside, often invisible but still hot in a couple minutes. The drill is then carefully a lifted away and pick up the glowing ember with the bark and set it on the tinder bundle. Cradling it in your hands, blow steadily.



Growing brighter and brighter orange, the coal and bundle will burst into flames. All this takes about one minute.

If the drills begin to creak, it is a mark that the holes in the fireboard have been conical, and the firemaking will

probably fail this time. Then you have to start at the beginning.



Tinderbox

Flint and steel were commonly used until the beginning of the 1800's. Industrial manufacturing of matches was started in 1832. It caused the use of flint and steel to be gradually given up. Genuine tinder is got from tinder fungus [punk, touchwood] (*Fomes fomentarius*) that grows on dead birches and beech.



When sparks are struck, tinder is always put on top of the flint. A straight and sharp edge of the flint is chosen and the steel is struck severely against it with a downward movement keeping the steel in vertical position.

When tinder starts to smoulder, the oldest way is to put it on a dry and shredded kindling and gently blow the sparks into flame.





When sulphur became known a sulphur cup was added to the steel outfit. The glowing tinder were dropped into the sulphur cup where sulphur began to boil. Fire was shifted to the kindling with a small stick. Later also sticks of pine wood were used. The sticks were dipped in melted (but not boiling) sulphur. When a stick was put on glowing tinder, it soon caught fire.



The Indonesian fire piston

One of the strangest ways of making fire was conceived by the natives of Indonesia. This was combustion by compressed air on the same principle as the diesel engine.

To make fire in this way, a cylinder of bamboo, 12 or 15 cm long, was used. One end of the bamboo was cut at the joint so that the base was closed. A piston of hardwood, wrapped at one end with tow or fibre, was pushed into the open end of the bamboo cylinder.



Added wrappings must be wound about the piston until it fitted tightly against the cylinder wall. The sides of the cylinder, the fiber-wrapped piston and the tinder greased with dog fat. But I have used other fats also.

To start a fire with the fire piston, a small piece of char is held in an indentation at the end of the piston; it is plunged into the cylinder, then quickly removed. Several tinders can be used:

dry moss tinder, shredded bark of juniper, the interior material of the true tinder fungus or the false tinder fungus.



When hitting the piston repeatedly with the palm of the hand, the air inside the cylinder being so highly compressed that heat is generated, igniting the tinder.



When a small ember should be glowing in the char, blow gently on it to spread the ember, then transfer it to a tinder bundle and blow it into flame.



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