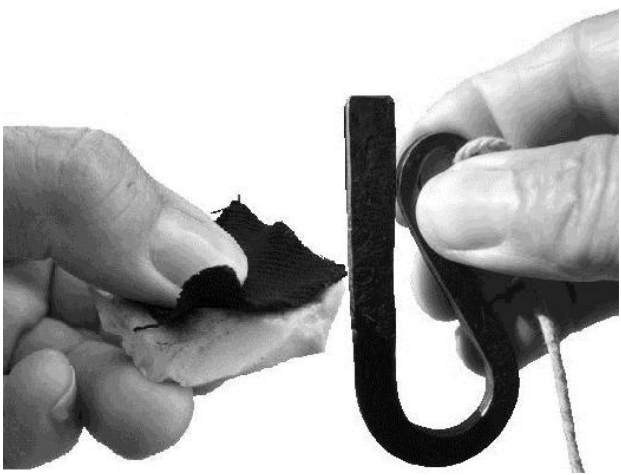
MAKING FIRE WITH FLINT & STEEL

BY JIM BULLER



Flint & Steel is a very historic sustainable way to start fire, going back at least to Roman times. It is a tried and true method that has stood the test of time. With a Flint & Steel Kit, you can make fire indefinitely, even in the wilderness.

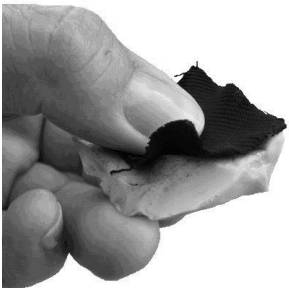
Before You Start a Fire

Before you strike a spark with your flint & steel set, prepare a safe area for the fire. You will also need to make a tinder bundle. And, make some wood shavings or gather some small kindling sticks, (about half of a pencil diameter). Also, have some larger kindling on hand as well.

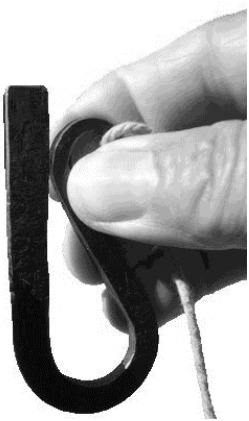
Making a Tinder Bundle

Gather some dry, almost as fine-as-hair material for a tinder bundle. The outer bark from sagebrush and cedars, the dead inner bark from many trees, fine dried grass, shredded pine needles, or the stringy fibers at the base of palm fronds all work well. If necessary, shred the tinder even more by rubbing it between the palms of your hands. It should be somewhat fluffy. Wrap the tinder together, forming it into a “nest” about the size of a large fist. Place some of the very finest and driest tinder material, sometimes known as “coal extender,” in the center of this “nest.” Place the tinder bundle in a safe dry place while you strike a spark.

Striking a Spark

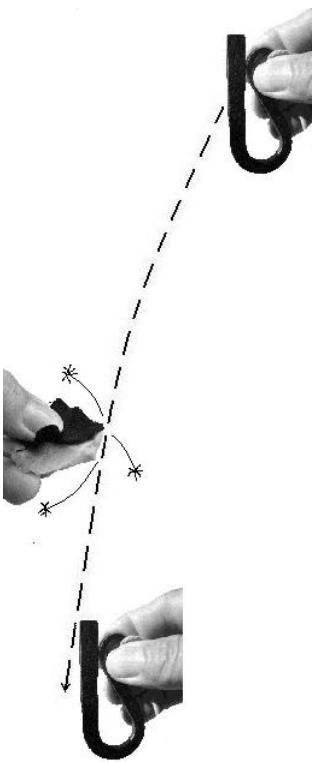


Find a good sharp edge on the “flint” rock. Choose an edge with a fairly thick angle, (about 75 to 80 degrees), as it will be stronger than a thinner edge. This striking edge needs to be sharp, not rounded. Place a piece of charred cloth on top of the “flint” rock with one edge of the cloth near the striking edge of the rock. Hold it in place with your thumb, and securely support the underside of the rock with your fingers. Grasp the striker securely with the other hand in such a way that the striking edge is facing away from your hand,



and your knuckles are as far out of the way as possible, otherwise they can get badly scraped while the striking the rock.

With a sharp, downward, scraping blow, strike the edge of the rock with the steel striker. Hit the rock in such a way that tiny bits of metal from the steel will be scraped off by the rock.



The sparks are made by the energy from the strike going into these tiny bits of metal causing them to glow. If the edge of the rock being struck

isn't sharp, it won't scrape off these tiny bits of metal. If the rock is not struck hard enough, there won't be enough energy to make sparks.

Remember: Power In = Power Out.

Making Fire!

Since the sparks tend to fly in every direction, they may or may not hit the cloth, even though you are making good sparks. Keep at it. Sooner or later a spark will catch on the charred cloth and begin a tiny glowing ember.

Once it catches a spark, place the charred cloth in the center of the tinder bundle. Then carefully pick up the bundle with your fingers, and fold it together around the glowing charred cloth, (somewhat like a "taco"). Keep the open side toward you so you can gently blow on the ember.

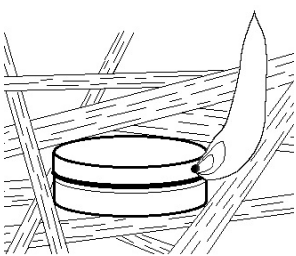
Steadily and gently blow on the ember with long slow breaths. As it spreads into the tinder, smoke will begin pouring out of the bundle.

Hold the bundle above the level of your face so you can quickly turn your head down to breathe in fresh air. Work with nature, and turn so that any wind will help to blow the smoke away from your face. It is a good idea to position yourself so that if the tinder bundle suddenly bursts to flame and surprises you, causing you to drop the bundle, you will drop it directly into the fire-pit.

Once you have flame, careully place the burning tinder in the fire pit. Quickly add the smaller kindling to the top of the flaming bundle. As this smaller kindling catches fire, add larger and larger kindling to build up the fire.

How to Make Charred Cloth

Charred cloth is frequently made in a small “tin” which can be placed in a fire. Usually, a small 1/8 in / 2 mm hole is drilled or poked, in the lid to allow smoke from the charring cloth to escape. However, if the lid is hinged, and there are already holes in the tin, this is not necessary. The lid can also be placed on the tin so that it is slightly “cracked” open while charring. However, if the lid were to come off while in the fire, it could ruin the batch.



A method that works well is to drill a hole through the edge of the lid and top of the tin. When charring cloth, the holes can be lined up to provide an escape for the smoke. Then, if the charred cloth is to be stored in the tin, as it frequently is, the lid can be placed so the holes do not line up, which helps to seal off and protect the

charred cloth inside the tin.

Loosely fill the tin with 1½ to 2 in./3 to 4 cm. squares of 100% cotton or linen cloth. Denim from an old pair of jeans works well. Put the lid on the tin, as described above, then place the tin in the fire. As the cloth inside the tin heats up, smoke and/or flame will begin shooting out of the hole. (Flame is just burning smoke). Keep the fire built up around the tin as necessary to keep it hot —the metal of the tin may become "red hot," but this will shorten the life of the tin.

When the smoke and/or flame stops coming out of the hole, leave the tin in the fire for another minute or so to be sure the cloth is done. Then, pull the tin out of the fire, being careful not to open the lid. Let the tin cool to touch before you open it, or the charred cloth may suddenly start glowing as oxygen gets to it, and your efforts may be burnt up. (If the lid *does* come off, replace it as quickly as possible.)

Once the tin is cool to the touch, open it and check to see that the cloth has been throughly charred —it can be placed back in the fire again if necessary. It is also worth checking to see how well this new batch catches a spark. The tiny ember can be quickly pinched to snuff it out, saving the piece of charred cloth to use later.

Incidentally, this charring method is the same as the process for making charcoal for medicinal purposes. The difference is that medicinal charcoal is made from wood, and the charred sticks usually ground to powder. Also, you would probably want to make a larger batch.

Tips:

• Once a spark has caught, some people add a second piece of charred cloth to it and place both pieces into the tinder bundle. This can give a larger coal/ember and help to insure success in blowing the tinder bundle to flame.

• However, if you wish to conserve your charred cloth, you can do essentially the same thing with various “coal extenders:” such as powdered brown rot from downed evergreen trunks, dry “pith” from the center of many plant stalks, or dry, very fine, (almost powdered), tinder material.

• Making and using tinder bundles is a skill in itself! Practice, practice, practice. Don’t wait until you really *need* a fire to learn how to make a good tinder bundle and blow it to flame.

• Occasionally, the coolness of the ‘flint’ rock will cause a glowing ember to go out. So it is usually a good idea to remove the cloth from the rock once you have caught a spark and place it directly into the tinder bundle.

• Holding the charred cloth in the air and blowing on the ember, will cause the ember to grow. However, this also burns up a portion of the charred cloth,

and is ultimately a loss of heat that could be used to help bring the tinder bundle to flame.

• If the rock is being struck repeatedly, and no sparks are being made, make sure you are striking a good sharp edge, and striking hard enough, with good "follow-through." It takes strong strikes to make good hot sparks. Remember: power in = power out.

• Steel strikers blend in well with the forest floor, and many have been lost in the excitement of catching a spark and blowing a tinder bundle to flame. Attaching a short length of light colored string or twine to the striker can help make it easier to find.

• If your striker gets rusty, clean it with a pot scrubber or wire brush, and give it a light coat of oil.

• All things considered, (assuming your technique is good), the most important

factor in getting good hot sparks is the hardness of the rock and the "sharpness" of the edge. Learn to feel a good edge by the way it grabs the ridges of your thumb-print as you drag your the thumb across the edge. If the edges of your rock have all become rounded and "chewed up," either chip off some of the rock to make a fresh edge, or get a new rock.

Finding More "Flint"

In your wanderings, keep your eye out for rocks that are hard and finely grained, even "glassy." (Obsidian is glassy, but it is too soft to throw sparks well.) Rock types such as flint and chert work well. Jasper and agate are even harder and therefore work better yet! Test the rocks you find with your striker. If necessary, break the rock to expose a fresh sharp edge.

If You Run out of Cloth to Char

Rotten wood, or “punk wood,” as it is called, can be charred the same way as cloth. Well rotted spongy “white rot” from the broad leaf trees seem to work best. (The cubical “brown rot” from the evergreens makes good ‘coal extender,’ even without being charred, but it doesn’t seem to catch sparks well.) Experiment with what you have in your area.

Pieces of charred rotten wood are quite fragile, so they are difficult to hold on a rock the same way as a piece of charred cloth. Place the charred rotten wood on a flat surface, such as a flat rock or piece of bark, or in the lid of the tin, and strike sparks directly over them instead. Striking horizontally, (rather than the vertical strikes described earlier), can help keep the charred material from being struck and scattered.

Some charred rotten wood catches sparks more easily than charred cloth, so it can quickly spread to the rest of the

pieces. If this happens, quickly pick out the piece you want to place in the tinder bundle, put the other pieces back in the tin and replace the lid to smoother them to save them for future use.

If good sparks are falling on the charred rotten wood and they are not catching, it might be helpful to crush the char. Experiment, and test each new batch of charred rotten wood, as there are many degrees of rottenness and each chunk of wood seems to act just a little differently.

If You Don't Have a Tin for Charring

Cloth or rotten wood it can be charred by burying it just below the surface of the ground and a fire built over it. The key is to heat it in the absence of oxygen to drive off the smoke gasses, then cool it below the combustion point before exposing it to air.