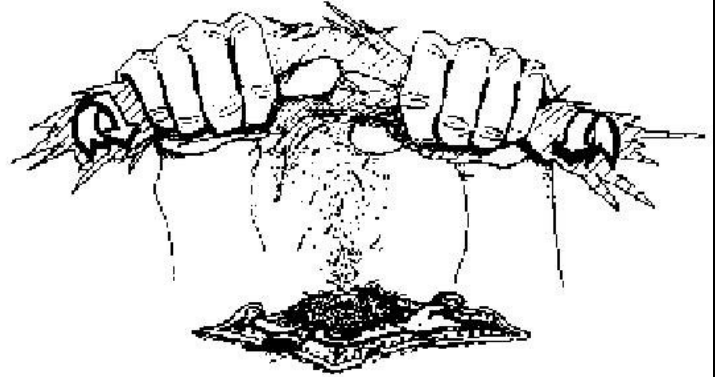


# The Fire Plow

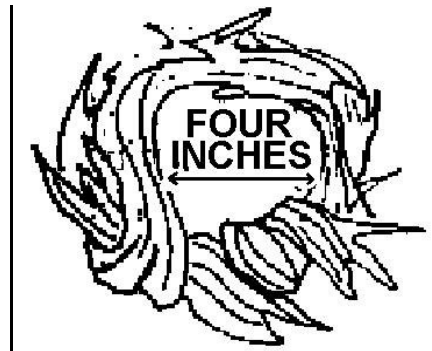
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This article focuses on the fire plow method, but whatever way you choose to make your Friction fire, you will need tinder and kindling. The coal you make with your fire set needs to be put into a tinder nest and blown into a flame. So gather your tinder and kindling first.

**Here's how to make the tinder nest:** You can use dry grass, fuzzed up bark like juniper, sage, and cliff rose, inner bark of aspen and cottonwood, or in a pinch, tiny wood shavings. Generally, you want to fuzz up the tinder so it will ignite easily. You want it to be soft and pliable. When you fuzz up the tinder, little bits will fall down from your hands as fine dust. You will need to save this dust so work



over a bandanna or something similar.



The best way we have found to work the tinder is to grab a length of it in both hands and move your fists round and round like pedaling a bike. This will soften the tinder that is between your hands. Move up and down the full length of your tinder. Then take some of this prepared tinder and tie a loose over hand knot in it. The diameter of this should be about four inches. Then stuff some tinder in this knot. It should look like a bird nest. The original knot of prepared tinder will hold the nest together. Keep stuffing the nest until it is dense. You don't want the coal to fall through the fibers and out of the nest, or have so

little to burn it fizzles out before the flame begins.

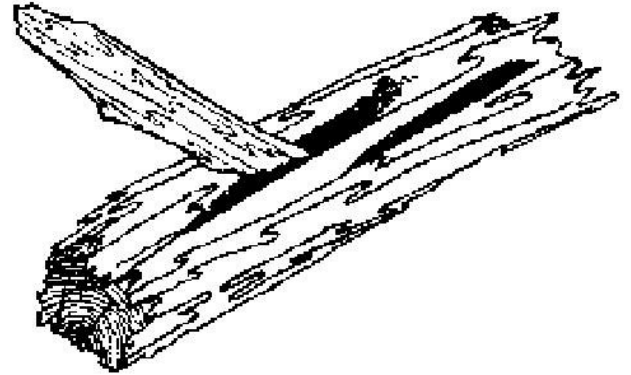
Collect the dust that has fallen into your bandanna and place it in the center of the nest. It will help if you first make a small hollow or depression in the center of the nest to contain the dust. As you pick up the dust you will notice that the finest particles fall back down onto the bandanna. This is what you want because you'll be packing finer and finer dust into the depression until the finest dust will be on the top, just where you'll place the eventual coal. Now make a small indentation in this dust for the coal and set the nest in a safe place where the wind won't blow it and you won't knock it around while making your coal.



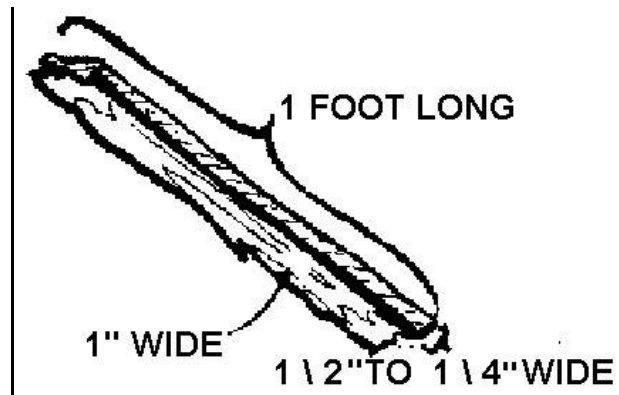
One more thing before you start: check your kindling pile and make sure you have enough wood to get your fire established once you put your coal in the tinder nest and blow it to a flame. That tinder nest won't burn forever, you know. And in the aftermath of effort and the euphoria and exhilaration that comes once that tinder nest starts blazing, it's hard to make yourself jump up and dash around looking for scattered kindling. So do it now; before you start making your coal.

**The Fire Plow** It doesn't get any more basic than this, unless you are chasing lightning around! Three hundred pound Polynesians have contests doing the fire plow method, but you don't have to be a Sumo wrestler to do this. However it does take intense effort. The

first time we ever got this simple fire starting method to work, we had twenty 3rd graders and six adults to provide the muscle. Since then we have refined our techniques so that we can get it with two or three of us in damp weather, and solo, in under seven seconds if conditions are bone dry. It is the most primitive of methods, literally rubbing two sticks together. The beauty of it is that you don't need any tools to carve the wood. If you can break off a branch or a large splinter of wood and rub it against a log, you can be sitting around a warm fire while others are still whittling their more advanced fire sets.



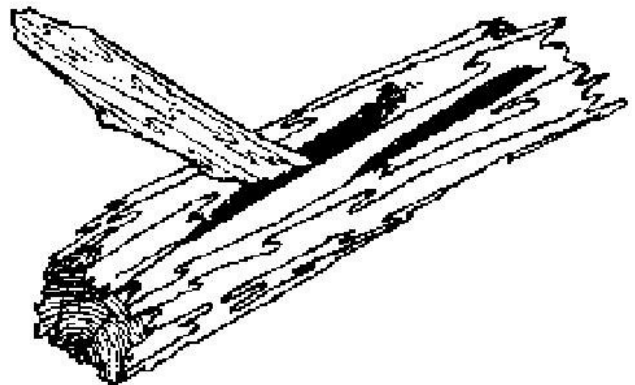
Our favorite woods for this method are cottonwood and sotol, (a type of big yucca). Both of these woods work well as plows, (the stick you hold and push) and bases, (the log you rub the plow on). Just remember the density of these woods varies greatly and it is best to have the base wood be harder than the plow so the groove doesn't get too deep.

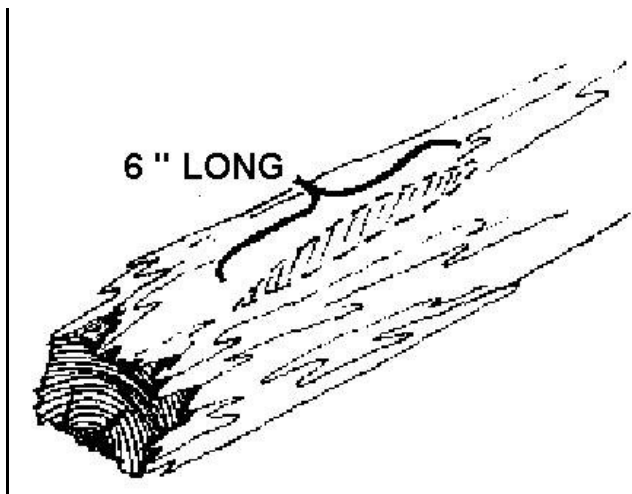


To make the plow, take a stick that is a foot long and comes to a point. Make the first inch of the stick between half and a quarter of an inch wide. Some sticks will already be this shape, otherwise you can get the point like this with a knife or by rubbing it against an abrasive rock.

The narrower the tip the more concentrated the heat, but the deeper it will dig into the log or base. And the deeper the plow digs into the base, the harder it will be to quickly push back and forth to get a coal.

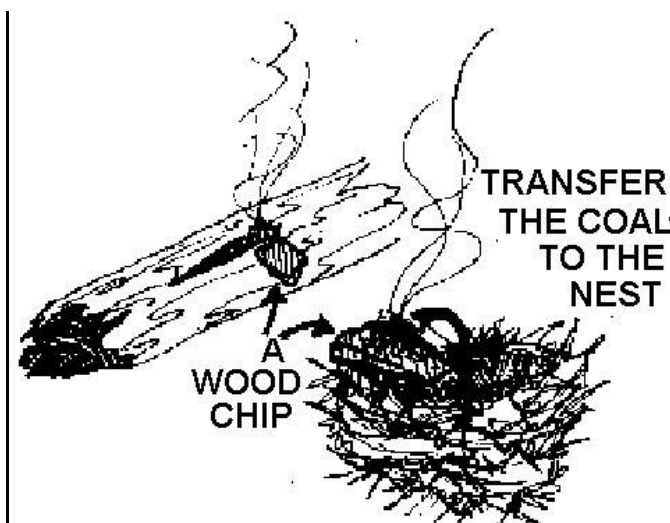
The plow is used to make a groove in the base log of the fire plow set. The base can also be a stick, so long as it is at least two inches wide. Start off with the plow stick at right angles with the base. Push back and forth to indent the groove. If the base is a stick and not a log, you may have to flatten the base or indent this groove with a knife to keep the plow from slipping out. If it is a big log, Just start plowing slowly. Have one hand an inch from the tip of the plow and the other with the palm over the butt end. Work the plow back and forth making a groove in the base six inches long. Once you have this groove made you are ready to lower the butt end of the plow and get to work. You need to lower the end of the plow so that the contact area between the plow and the base is greater. This dries out the woods and builds up heat without gouging too deeply into the base. Once the wood is really smoking and black dust is forming, raise the butt end of the plow to focus the heat on the tip. Go back and forth touching the accumulating dust at the far end of the groove every other time or so without obliterating this dust pile. Getting this subtle touch and retreat technique takes practice.





the groove too quickly, use more speed and less pressure, or drop the butt end of the plow down to increase the contact area between the plow tip and the groove. This will fire harden the groove some so that it will wear more slowly, and get sufficiently hot without wearing too deeply. On the other hand, if you don't apply enough downward pressure, a shiny black glaze will form, impeding friction. Your plow will slide easily in the base groove without making smoke. Stop and clean the glaze off of the plow stick and out of the base groove with a rough rock or put sand in the groove and plow through the glaze.

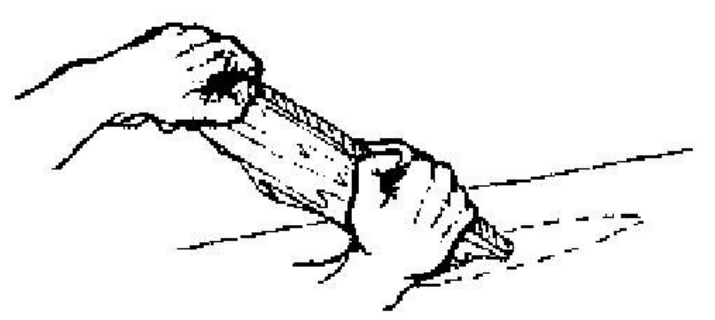
You will find that as you plow and work at touching and retreating from the forming dust pile, the groove will shorten up and you will be primarily using the half of the groove closest to you. If you allow the groove to get too short you will be spending all your time plowing tiny strokes back and forth and you will not be able to get enough speed. Keep the groove at least three inches long even if you have to extend the groove toward you as you plow. The Fire Plow method is a sprint. If you start to slow down then switch and let someone else go at it. When you stop plowing and get ready to switch, always keep the tip of the plow buried in the dust so you don't lose heat.



Keep at it! You'll get the rhythm.

As you work the plow back and forth, sometimes a lip will form in the groove just before the place where the dust pile is accumulating. Each time you hit this lip you can be extinguishing a potential coal with the plow. Hitting the lip also hinders your momentum and decreases dust accumulation. If a lip forms in the groove, either move the stroke of the plow forward a little to break through this lip or move the stroke back so you don't touch it at all.

Speed and pressure are both important. If you find the accumulating dust is big and flaky, or if the plow is really deepening



If the groove gets so deep that it is hard to move the plow, you may shift your pressure forty-five degrees out to the side of the groove. This widens the groove instead of continuing to make it deeper. You can still get a coal this way without having to start a new groove.

Once you get a coal with your fire plow set, you'll transfer it to your tinder bundle and blow it to a flame. Do this carefully enough to keep the coal intact. Fold the nest around the coal to keep the coal from falling out and lift the tinder to mouth level, inverting the nest somewhat. This inversion allows the heat

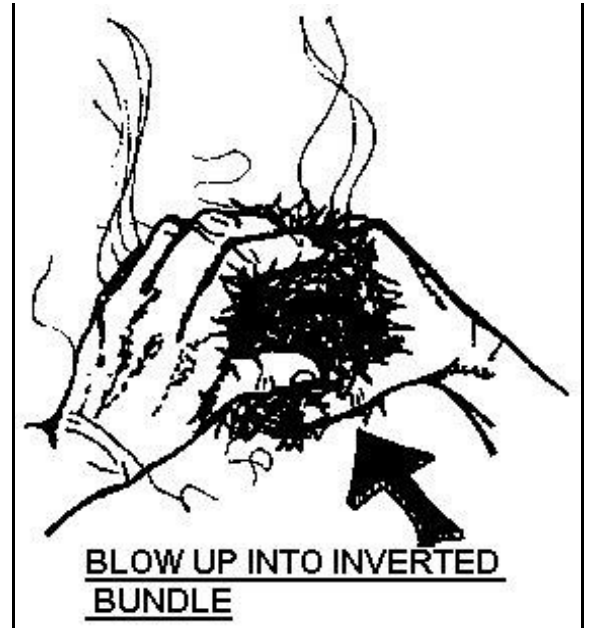
from the coal to rise into the dense mass of the tinder nest.

Blow gently on the coal, allowing it to consume the dust. As you blow, keep pinching the nest around the coal just enough to keep the coal in the nest while you tip the nest over and blow up into it. Don't pinch so hard that you put out the coal ! As you're blowing, if sparks are flying all over, pinch the nest to surround and contain the burning tinder. If you don't close up the nest at this point the burning tinder may fall out of the nest.

Once the smoke increases, blow with more force. Turn your back to the wind so the wind will blow into the nest and keep the smoke out of your face. Keep blowing until the bundle bursts into flames. Sometimes, if the tinder is damp, it may have to dry out before it can flame. So hold off blowing a minute to let the tinder dry out and then resume blowing. If the nest is too small or not dense enough and falling apart, you may need to add more dry material around the smoldering nest.

If your fingers get too hot, grab the nest between two sticks. Holding a hot tinder nest in your fingers will make your fingers yellow and you'll look like a chain smoker. Besides, it hurts! The sticks or a tough piece of folded bark with the nest jammed into the fold are both good solutions. The burning tinder soon becomes a roaring fire. That is if you collected that kindling!

The fire plow lets you get your weight right over the area you are working and uses large muscle groups that were made for power. Its drawback is that the heat is dispersed along a groove and it usually takes power to get a fire. Still, this is a time tested method as well as a great work out. So rub sticks together in this fire plow method and enjoy the process of recreating a body that the human race has not known since Neanderthal!



Bart & Robin Blankenship teach their Earth Knack classes in Crestone, Colorado.

The Fire Plow was adapted from their book, Earth Knack: Stone Age Skills for the 21st Century ( I have two copies, very good!)

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