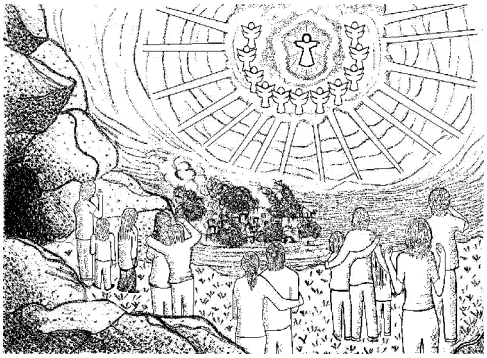
Practical Christianity — End-Time Bible Studies — Country Living — Wilderness Living



PREPARING TO STAND

Number 82 — September, 2014

"In this age, just prior to the second coming of Christ in the clouds of heaven, God calls for men who will prepare a people to stand in the great day of the Lord." SW 3/21/1905

DEAR BRETHREN AND SISTERS

by E. G. White

Review & Herald September 1, 1849

In this time of trial, we need to be encouraged, and comforted by each other. The temptations of Satan are greater now, than ever before; for he knows that his time is short, and that very soon, every case will be decided, either for Life, or for Death. It is no time to sink down beneath discouragement, and trial now; but we must bear up under all our afflictions, and trust wholly in the mighty God of Jacob.

The Lord has shown me that his grace is sufficient for all our trials; and although they are greater than ever before, yet if we trust wholly in God, we can overcome every temptation, and through his grace come off victorious.

If we overcome our trials, and get victory over the temptations of Satan, then we endure the time of our faith, which is much more precious than gold, and are stronger, and better prepared to meet the next. But if we sink down, and give way to the temptations of Satan, we shall grow weaker, and get no reward for the trial, and shall not be so well prepared to meet the next. In this way we shall grow weaker, and weaker, until we are led captive by Satan at his will. We must have on the whole armour of God, and be ready at any moment, for a conflict with the powers of darkness. When temptations and trials rush in upon us, let us go to God, and agonize with him in prayer. He will not turn us away empty; but will give us grace and strength to overcome, and to break the power of the enemy. O, that all could see these things in their true light, and endure hardness as good soldiers of Jesus. Then would Israel move forward, strong in God, and in the power of his might.

God has shown me that he gave his people a bitter cup to drink, to purify and cleanse them. It is a bitter draught, and they can make it still more bitter by murmuring, complaining, and repining. Those who receive it thus, must have another draught; for the first does not have its designed effect upon the heart. And if the second does not effect the work, then they must have another, and another, until it does have its designed effect, or they will be left filthy and impure in heart. I saw that this bitter cup can be sweetened by patience, endurance and prayer, and that it will have its designed effect upon the hearts of those who thus received it, and God will be honored and glorified. It is no small thing to be

a Christian, and be owned and approved of God. The Lord has shown me some who profess the present truth, whose lives do not correspond with their profession. They have got the standard of piety altogether too low, and come far short of Bible holiness. Some engage in vain, and unbecoming conversation; and others give way to the risings of self. We must not expect to please ourselves, live and act like the world, have its pleasures, and enjoy the company of those who are of the world, and reign with Christ in glory.

We must be partakers of Christ's sufferings here, if we would share in his glory hereafter. If we seek our own interest, how we can best please ourselves, instead of seeking to please God, and advance his precious, suffering cause, we shall dishonor God, and the holy cause we profess.

We have but a little space of time left to work for God. Nothing should be too dear to sacrifice, for the salvation of the scattered and torn flock of Jesus. Those who make a covenant with God by sacrifice now, will soon be gathered home to share a rich reward, and possess the new kingdom forever and ever.

O, let us live wholly for the Lord, and show by a well ordered life, and godly conversation that we have been with Jesus, and are his meek and lowly followers. We must work while the day lasts, for when the dark night of trouble and anguish comes, it will be too late to work for God. Jesus is still in his Holy Temple, and will now accept our sacrifices, our prayers, and our confessions of faults and sins, and will now pardon all the transgressions of Israel, that they may be blotted out before he leaves the Sanctuary. When Jesus leaves the Sanctuary, then he that is holy and righteous, will be holy and righteous still; for all their sins will then be blotted out, and they will be sealed with the seal of the living God. But those that are unjust and filthy, will be unjust and filthy still; for then there will be no Priest in the Sanctuary to offer their sacrifices, their confessions, and their prayers before the Father's throne. Therefore, what is done to rescue souls from the coming storm of wrath, must be done before Jesus leaves the Most Holy Place of the Heavenly Sanctuary.

The Lord has shown me that precious souls are starving, and dying for want of the present, sealing truth, the meat in due season; and that the swift messengers should speed on their way, and feed the flock with the present truth. I heard an Angel say, "speed the swift messengers, speed the swift messengers; for the case of every soul will soon be decided, either for Life, or for Death."

I saw that those who had the means, were required to help speed those messengers, that God had called to labor in his cause, and as they went from place to place, they would be safe from the prevailing pestilence. But if any went that were not sent of God, they would be in danger of being cut down by the pestilence; therefore all should earnestly seek for duty, and be sure and move by the direction of the Holy Spirit.

What we have seen and heard of the pestilence, is but the beginning of what we shall see and hear. Soon the dead and dying will be all around us. I saw that some will be so hardened, as to even make sport of the judgements of God. Then the slain of the Lord will be from one end of the earth, to the other; they will not be lamented, gathered, nor buried; but their ill savor will come up from the face of the whole earth. Those only who have the seal of the living God, will be sheltered from the storm of wrath, that will soon fall on the heads of those who have rejected the truth.

In Hope, E. G. White.

MAKING FIRE WITH A FIRE-DRILL

There are many different primitive fire starting methods. One of the simplest, and the most common world-wide, is the 'hand-drill.' To make fire with a hand-drill, a 'spindle' is spun between the palms of the hands while being pressed into a socket on a 'hearth' or 'fire-board.' The friction, created by the speed and pressure of the spinning spindle, generates heat. 'Charred dust,' which is also created in this process, is collected in a 'notch' going into one side of the socket on the fire-board. Once the notch has filled with charred dust, the spindle is spun faster and given extra pressure to create enough heat to bring the charred dust up to combustion temperature, thus producing a burning coal or 'ember.'

There are other ways to spin and put pressure on a spindle. The most common is probably the bow-drill. However, to get a fire by any of these methods, there are a lot of things that must be 'done right.' The right materials must be used. These must be carved into the right shape. The various pieces must be held together correctly, which usually means that your body must also be in the right position. And finally, the right technique must be used! With enough practice, all this *can* become almost second nature, and appear 'easy.' But expect a lot of trial and error, together with a fair amount of frustration while learning the process.

Since we didn't have anyone to teach us how to make fire with a bow-drill, we learned this skill from a book. There were about three of us working on it together at the time, and it took us several sessions and a lot of trial and error before we finally got our first coal. Adding things up later, it had taken us roughly the equivalent of a full day to get fire. This experience underlines, at least to me, that if someone did not already *know* how to make fire with a fire-drill, they shouldn't expect to be able do it on that first evening before a cold night of a survival situation. Yes, it is possible. But this is one of those things that simply take some time to learn. Like many other wilderness skills, if you want to be able to rely on doing it in a survival situation you *must* invest some time and effort preparing ahead of time.

2-Person 'Egyptian Wrapped' Cord-Drill

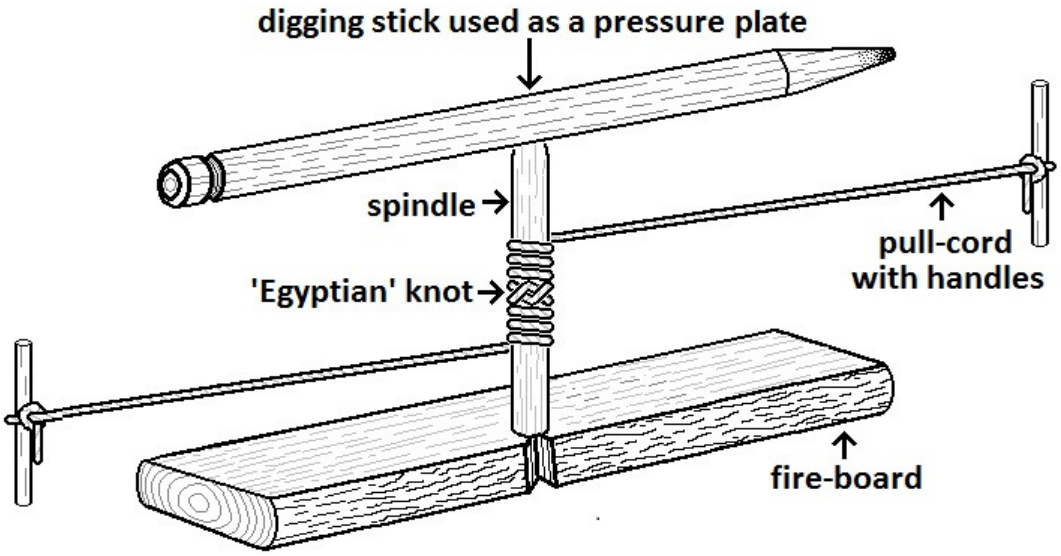
A while back, I saw a picture somewhere on the internet of a group doing a bow-drill using a stick about two feet long for the hand-hold/pressure-plate. Since the group of students I was working with at the time had been trying, unsuccessfully, to make a bow-drill fire, I turned them loose on the idea, and they got a coal on their second try!

Since that first experiment with a group bow-drill, we have incorporated a few other ideas to refine and simplify the process. From our experience, it seems that if at least one person in a group of unskilled individuals knows the principles of how a fire-drill works, their

chances of actually getting a fire as a group are significantly greater than one unskilled person trying to do it all by themselves —even if that person has a good understanding of what needs to happen. We have had up to seven people working as a group to make a fire-drill fire. However, the most efficient method seems to be the 2-person 'Egyptian wrapped' cord-drill. This method also makes fire possible for those who are simply not strong enough to get a coal on their own —such as might be the case with children.

Choosing the Right Materials

Some woods that work well are the various cedar, cottonwood, poplar, and willow species. You might try pine, but be sure to choose a piece that doesn't have any pitch —which would only gum thing up. Try what is know as the 'thumbnail test' by pressing your thumbnail into the corner of a piece of wood. If you can make a slight dent in the wood there is a good chance it will work. If you cannot make a dent, the wood is probably too hard. On the other hand, if your thumbnail makes a large dent it is probably too soft, and you will end up drilling through it rather than creating enough friction to reach combustion temperature. The wood also needs to be dry. Although it *is* possible to make a fire with damp wood, (see the note at the end of this section), expect it to be much more difficult, and take considerably longer. Using different woods for the fire-board and the spindle appear to create a bit more friction, but you can make the spindle and fire-board from the same wood.



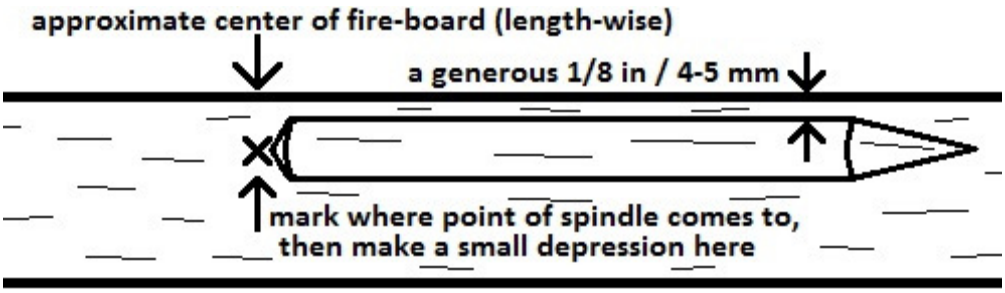
Carving the Spindle

Unless you can find a straight dead branch or trunk with the right measurements, you will need to carve a spindle. The spindle needs to be about 8 to 12 in / 20 to 30 cm long, and ½ to ¾ in / 10 to 18 mm in diameter. It must also be *straight*. If it has any more than the slightest curve in it, the spindle will wobble when spun, and be very difficult, if not impossible to control. The spindle will be much easier to carve, and be stronger if it is made in-line with the 'grain' or growth rings of the wood rather than crossways or at an angle to the natural grain of the wood. Split some straight grained wood roughly to size and then round it with a knife. Point both ends of the spindle. Make a point with essentially the same angle as a sharpened pencil on the 'top' end, and a much more blunt point on the 'bottom' end.

Carving the Fire-Board or Hearth

Split out and carve a 'board' that is about ⅝ to ¾ in / 1.5 to 2 cm thick, about 1½ to 3 in / 4 to 8 cm wide, and 1 to 2 ft / 30 to 60 cm long. Before you start carving, take a look at the 'growth rings' on the end of the wood. Compared to the 'flat' of the finished board, these lines should be running up and down, rather than horizontal, if at all possible. Although it may be possible to get fire with the growth ring lines running horizontally, it will be more difficult as you first 'hang up,' and then 'break through,' the 'layers' created by each ring. On the other hand, if the growth ring lines are running up and down, they create more friction, making the drilling process more efficient. You can flatten a round branch on both top and bottom for the fire-board, or split it out of a larger piece of trunk wood. The board needs to be able to lay flat on the ground, and not 'teeter-toter.'

Lay the finished spindle along one edge of the fire-board with the bottom point of the spindle close to the length-wise center of the fire-board. Roll it away from the edge a generous ⅛ in / 4-5 mm. Mark where the bottom point of the spindle comes to on the fire-board. Remove the spindle, and make a shallow depression in the fire-board at this spot to receive the bottom point of the spindle.



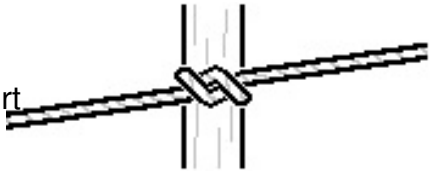
The Pressure Plate

Choose a handle diameter stick about 2-2½ ft / 60-75 cm long of the hardest wood you can easily get a hold of. Your digging stick will probably work well for this. Find the natural curvature of the stick. On the underside of the natural curvature, make a small

depression at the approximate length-wise center of the stick. This depression will receive the upper point of the spindle.

Pull-Cord

You will need about 4 or 5 ft / 1.2-1.5 m of cordage. This method appears to be able to use cordage that would be marginal for a bow-drill, but it is still best to use cordage that is pliable and *tough*. Tie the center of the cordage to the center of the spindle for the 'Egyptian knot,' which refers more to this technique than to any particular knot. Some people use other fancier knots for this, but in most cases a simple overhand knot works just fine. Although it is not absolutely necessary, tying short sticks to each end of the cordage for handles will make things a lot easier. The two half-hitches knot works well to tie the cordage to the handles.



Tinder Bundle

Although it is not part of the fire-drill set as such, a tinder bundle is also a very important part of making fire with this method process. So before you spin up a coal, prepare some tinder. Tinder is dry shredded material that will easily grow a coal and catch fire. Look for dry grasses, shredded inner and outer barks, shredded pine needles, downy seed fluffs, the stringy fibers at the base of palm fronds, or similar materials. Fine wood scrapings can also work. If necessary, shred the tinder even more by rubbing it between the palms of your hands. It needs to be almost as fine as hair, and somewhat fluffy.

Some materials, like cattail down and dried grasses, will catch fire easily, but don't grow a coal very well. Others, like shredded inner cottonwood bark, grow a coal wonderfully, but don't like to burst into flame. Also, many dried grasses are so stiff they allow the coal to fall through the bundle rather than forming a good 'nest' to receive the coal. You will have to experiment with what is available in your area, and may find that a combination of materials actually works best. In relatively dry weather, all this may not be so critical, but when the weather makes things marginal, it is important to have tinder that will both grow the coal, *and* burst into flame.

In wet conditions, making the tinder bundle from pitch-wood scrapings, or at least adding a generous amount of these scrapings to the center of a bundle, may be the only thing that will work. Giving the coal a chance to heat and dry the tinder before blowing it to flame can also be a useful technique when things are damp. However, if you are relying on a fire-drill, or some other primitive method to start your fire, the best practice is to carry dry tinder with you.

Make the tinder bundle by wrapping some tinder into a nest shaped bundle about the size of a large fist. The bundle's density should be spongy —firm but not compact. If at all possible, place a generous 'spoonful' of the driest, finest tinder material, some dry

crushed, well rotted wood, pith from the center of a plant stalk, or something similar, in the center of the nest to help grow the coal. If tinder is scarce, a handful of larger material, such as pine needles, can be wrapped around a smaller tinder bundle, but this is usually less than ideal.

Place the tinder bundle in a safe dry place that is close at hand. Also, before you spin up a coal, be sure to prepare the fire-pit, have a couple handfuls of pencil size and smaller dry twigs, along with a couple more handfuls of finger size twigs, and have some fuel wood ready. There is nothing worse than blowing a hard earned coal to flame, and then watching the tinder bundle burn up, and burn out, as you're scrambling around trying to find some kindling.

Positioning The Anchor/Pressure Person

If at all possible, have one person sit on a rock or log with a level, flat, dry area in front of them. Place the fire-board flat on the ground with the side the depression for the spindle to fit in facing up. Put one foot on each end of the board to hold it in place. Wrap the cordage around the spindle three or four time both above and below the 'Egyptian knot.' Be sure it is wrapped in the same direction as it comes out of the knot, which will end up being in opposite directions above and below the knot. Place the 'bottom' point of the spindle in the depression on the fire-board. Then put the 'top' point of the spindle in the depression on the underside of the pressure plate stick. Note that if the pressure plate stick is rolled to the front or to the back, the top of the spindle can slip out of the depression, especially when it is pulled by the cord, so keep the pressure plate stick at 'top dead center.' Move the fire-board, feet, and legs as necessary so that the pressure plate stick can be held 'locked' against both shins on either side of the spindle, with the spindle straight up and down between the pressure plate and the fire-board.

The anchor/pressure person's job is to: (1) hold the fire-board in place so that it doesn't scoot around during the drilling process, (2) keep the spindle straight up and down, and (3) provide downward pressure on the top of the spindle.

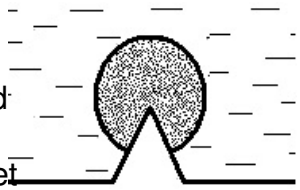
The Cord-Puller

Another person sits on the ground in front of the anchor/pressure person. Their job is to pull the cordage back and forth to spin the spindle. As they do this, they should keep their hands fairly level with the ground, so that the cordage wraps evenly around the spindle. If their hands move up and down while pulling the cord, it may wrap too high, or too low, or knot up, resulting in the spindle being pulled out of its sockets in the fire-board and pressure plate stick. Then you will have to start over. The cordage should also be kept tight between the cord-puller and the spindle. 'Pushing,' or 'feeding' the cordage into the spindle can also cause it to knot up and pull the spindle out of its sockets. When pulling the cord back and forth, set a good rhythm, and make nice long strokes. The cord-puller may need to move back, (or possibly forward), for the best efficiency. Once everything is in position and ready, start pulling the cord back and forth to spin the spindle. When a good rhythm is established, the pressure person gradually increases the downward pressure on the spindle. If everything is going right, smoke should start coming from the sockets.

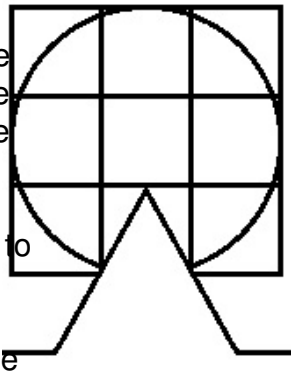
Seating the Spindle

Even though the process of seating the spindle to the fire-board should produce some good smoke, the goal at this point is simply to burn the initial depressions in the pressure plate and fire-board into sockets. So, don't worry about trying to make fire just yet. Before you will be able to make fire you will need to cut the 'notch,' and before you can cut the notch, the bottom of the spindle needs to match the socket on the fire-board. As the spindle is spun under pressure it will drill into the fire-board so that the initial depression deepens and broadens into a socket with the same diameter as the end of the spindle. Notice the charred dust that is formed in this process —more about this later. Once the diameter of the socket matches the diameter of the spindle, stop drilling. It is time to cut the notch step in the fire-board.

Cutting the Notch



A burning coal forms when the heat of the friction caused by the spinning spindle brings the charred dust up to its combustion temperature. The notch provides a place for this dust to collect, and then once the notch is full, it holds the dust in contact with the hot bottom end of the hot spindle. The notch must be wide enough to let in sufficient oxygen for combustion, but not so wide that the spindle 'wallows out,' or drill its way out through the notch —something that seems to happen anyway every now and then, despite our best efforts and intentions. Be sure there is enough 'shoulder' remaining on the edge of the socket to keep the spindle in place.



To help find the correct dimensions for the notch, someone has come up with the idea of a "law of thirds." As I understand it, the socket in the fire-board is mentally divided into thirds, both from side to side, and from front to back. The notch is a triangular cut from the edge of the fire-board that goes a third of the way into the socket, and cuts across the center third of the width of the socket. Personally, I just envision an equilateral triangle that cuts 'not quite' to the center of the socket.

If at all possible, cut the notch with a *sharp* knife, so its sides are smooth and straight. Once a coal has formed, you will want to be able to pull the fire-board away from it without the roughness of the sides of the notch scattering the coal, and causing you to have to start over again. The notch *can* be cut with a sharp saw, or ground out with an appropriately angled edge of a rock, but a sharp knife makes smoother sides.

Spinning Up a Coal

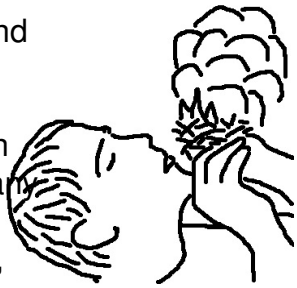
Now that the notch is cut, you are ready to make fire. Put the fire-board back on the ground with the notch facing forward so you can watch what is happening. Place a leaf, chip of wood, or piece of bark under the notch so you can pick up the coal and transfer it to the tinder bundle. Get back into position, rewind and replace the spindle and pressure plate stick. Start pulling the cordage back and forth to spin the spindle. Once a good rhythm is established, gradually increase the pressure. As things heat up, smoke should be seen coming from between the spindle and fire-board, and the notch should start filling with charred dust. Keep up a steady pace until the notch is full. If the spindle flies out, rewind it,

put it back into place, and start over. Try not to lose the dust that has already collected in the notch, as the notch must be full of dust before you can get fire. If the spindle appears to be starting to drill out of the notch, the pressure person can scoot forward on their seat a little to make the top of the spindle lean forward slightly, angling the base of the spindle back into the fire-board to help keep it in place. (See 'Trouble Shooting' later in this section).

Once the notch is full, give a burst of speed, increase the pressure a bit, and pray for fire. Watch for smoke coming out of the pile of charred dust itself, rather than just from in between the spindle and fire-board. When you see smoke coming from the pile of dust itself, stop. Up until now there has been a lot of energy going into the drilling process. Now it is time to relax. Carefully remove the spindle and fire-board without disturbing the young glowing coal. Before lifting the fire-board, it may be helpful to tap it with the pressure plate stick to loosen the coal from the notch.

Gently fan the burning coal with your hand allowing it grow into the pile of charred dust. Notice that the charred dust that forms the ember sticks together rather that remaining loose like the rest of the dust. This is called 'coalescing.' Let the coal coalesce and grow a bit, so it doesn't fall apart while being transferred to the tinder bundle. Continue gently fanning it off and on during this process.

After the coal has grown a bit, gently transfer it to the center 'nest' of the tinder bundle. Then, fold the bundle around the coal, and blow on the coal gently and steadily. As the ember spreads into the tinder, smoke should begin pouring out of the bundle. Hold the bundle above the level of your face so you can turn your head down and to get a fresh breath of air. Work with nature, and turn so that any wind will blow the smoke away from your face, and help to blow on the coal. It is also a good idea, before you start blowing on the coal, to position yourself so that if you become startled by the tinder bundle suddenly bursting to flame you can drop it directly, and safely into the fire-pit —which you have hopefully already prepared. Hopefully you have also remembered to prepare several handfuls of small dry twigs, as well as some larger sticks, so the tinder bundle doesn't burn out before you are able to get a fire going —and all your hard work literally goes up in smoke.

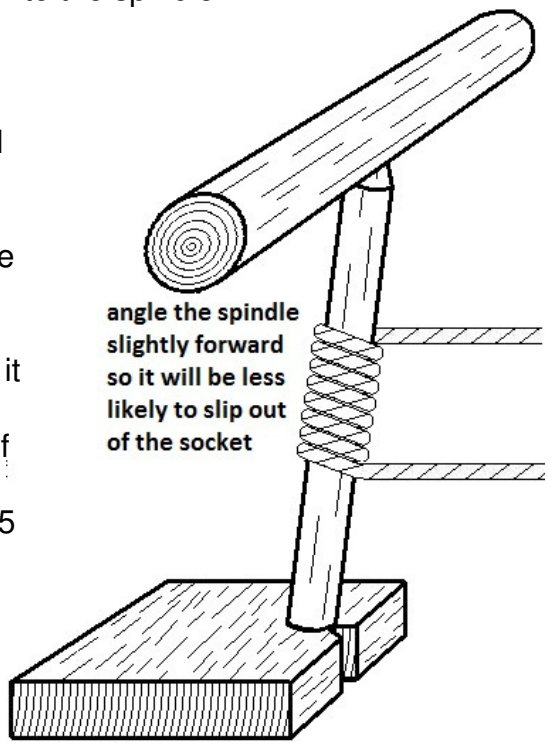


What If the Wood is Wet

Do your best to find and use dry wood to make your fire-drill set. And then once the set is made, do everything you can to keep it dry, as you should be able to make several fires from this same set. However, if the wood is wet, or gets wet, you can still make a fire. It will just take a lot longer. Put your set together and start drilling, but don't expect to get fire just yet. Drill just long enough to heat up the end of the spindle and the socket of the fire-board, probably until that first whiff of smoke. Then, still keeping the spindle in contact with the fire-board, stop drilling. Let the heat dry the wood for a couple minutes. Then drill again for a bit to reheat the wood and stop to let it dry again, still keeping the everything in place. Continue drilling and drying until the wood, at least the end of the spindle and the area around the socket of the fire-board is dry enough to produce a coal.

Trouble Shooting

• What if the spindle keeps flying out?
  > Be sure the spindle is straight.
  > Be sure the spindle is positioned straight up and down.
  > Be sure the pressure-stick is 'top dead-center' to the spindle.
  > Carve the depressions a little deeper. Re-point the top, and possibly the bottom of the spindle if necessary.
  > If the spindle is starting to 'wallow out,' or drill out through the notch, sometimes it is possible to save things by angling the spindle back into the fire-board just a bit. The fire-board can also be turned around, so the spindle is pulled back into the board rather than out the notch. However, in this position it is difficult to see what is happening in the notch in order to tell when you have a coal. If neither of these techniques work, start over by making another socket a couple inches / 5 cm to one side of the first socket. Re-seat the spindle, cut a new notch, and try again.



• Getting plenty of smoke but no coal.
  > Add a bit more pressure.
  > Take longer strokes with the pull-cord
  > Drill a little faster.
  > If the notch is too narrow, the coal can't get enough oxygen to form. Slightly widen the notch. But don't make it much wider than 60 degrees, or you will risk the spindle wallowing out.
  > The wood may be slightly damp. See instructions for wet wood.
  > Try again with some different wood. Especially if the spindle had difficulty seating in the fire-board to begin with, (the fire-board wood may be too hard), or if the spindle seems to drill right through, (in which case the fire-board wood is too soft).
• Not even getting any smoke.
  > Take longer strokes, increase speed and/or pressure.
  > Try different woods.
• Squeaks!
  > Increase pressure. Squeaking is caused by the bottom end of the spindle and/or the inside of the socket becoming fire-hardened, or 'glazed.' Look at the inside of the socket and the bottom of the spindle to see if they are dark and 'polished' looking. Increased pressure is needed to break through the fire-hardening. (Sometimes putting a few grains of sand in the socket can help to break through the glaze.)

• The coal goes out before the tinder bundle bursts to flame, or the tinder bundle just won't burst to flame.
  > Possibly the tinder bundle is too loose. This can allows the coal to fall apart and filter through the tinder and out of the bundle. Dry grass and pine needles are notorious for letting this happen. Add about a 1½ in / 4 cm pad of some very fine tinder material or 'coal extender' to the center of the tinder bundle 'nest,' and try again.
  > As mentioned earlier, ideal tinder needs to both grow a coal, and burst to flame. There are some tinders that do a great job growing a coal, but are difficult to get to burst to flame. If you are having trouble getting a flame, this might be the problem. Try some different tinder, or mix some other tinder material into the tinder bundle.
  > If the tinder is damp, the cooling effect of the moisture could keep the bundle from catching flame. Do all you can to find dry tinder, and then keep it dry. Even the moisture from your hands can cause problems if you hold the tinder for any length of time. So, rather than carrying the tinder to camp in your hand, put it in a bag or something else. If you are forced to deal with damp tinder, use the driest tinder you can get, and make the coal as large as possible. If you can, place a thick pad of coal extender in the center of the bundle. Carefully place the coal on this pad. Collect all the charred dust you made, and place it on top of the coal —but be careful not to smother it. Carefully fold the bundle together so the coal can begin heating and drying the tinder. Before trying to blow it to flame, let the tinder bundle heat and dry for several minutes, gently blowing on it just enough to keep the coal alive.
  > If you know you have good tinder, the problem may simply be the way you are blowing on it. Blowing too hard can scatter the coal. Not blowing hard enough will keep the tinder from heating up to combustion temperature. How to blow 'just right' is hard to put into words, so you will just have to experiment. This re-emphasizes the importance of practicing ahead of time, before you need to rely on these skills for survival.
