

bore two holes for the screw wedges with a gimlet and screw them into place.

Your axe is now ready for use, and the screw wedges will take up the normal shrinkage for a long time.



Fig. 17.—Drive in tightly a long wedge of well-seasoned wood. Then cut off the surplus wood and restore the Take-Up Wedges.

## CHAPTER III

### How to Use an Axe

I know of no tool that is more abused in use than the axe. The popular conception of chopping seems to be that you take an axe and hit at the wood.

Chopping is an art. Only years of practice bring expertness. Yet there are certain fundamentals of axe use which can be readily grasped by any man. Frequently a knowledge of them will reduce his chopping time by half; always, they will save his strength and speed his work.

It is these primary principles which I treat of in this chapter.

**The Proper Grip.**—Look at Figure 18. I am standing upon a log with the axe in a horizontal position. Note the position of hands: The left hand about three inches from the end of handle; the right hand about three quarters of the way up the handle.

Now look at Figure 19. I have brought my left arm forward. The right arm is drawn back, and the axe head has traveled in a half circle along my right side and up the back. This is the top, or beginning of the stroke. The hands are still in the same position.

Keep your head down and your eyes on the cut. Aim your blow, and bring the axe down with a natural, swinging motion, sliding your right hand down the handle as the axe descends. At the end of your swing the hands should be together as shown in Figure 20.

Only the right hand slides; the left hand retains a firm grip in its original position.

Now, free the axe and return to Top of Stroke position, sliding the right hand back up the handle to its proper place.

Never raise the axe straight in front of you. Always swing the axe head with a natural circular motion along, and to the rear of, your right side.



Fig. 18.—Take a firm stance on the log and grip the axe as shown.



Fig. 19.—Position of hands and axe at Top of Stroke. Note that the head is down—eyes on the cut.

Practice these swings, giving particular attention to the position of your hands, until you acquire the knack.

**Position on Log.**—Always stand on top of any log that will give you a foothold. If the surface is smooth, roughen it with your axe to secure a firm foothold.

Chop between your feet. Figure 19 illustrates the correct spread of legs, and the position of feet in relation to cut you are making.

**Correct Angle for Chopping.**—Do not drive the axe straight in. Cut on an angle; usually about a 50-degree angle from the edge of the log.

Many axe users fail to start their cut wide enough, and before they reach the center of the log, they are cutting in a tight angle and have to recut a wider notch.

The width of the cut varies with

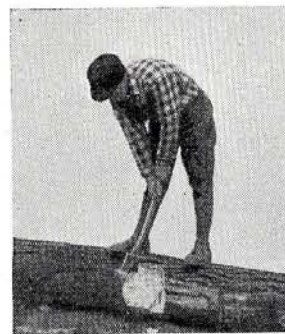


Fig. 20.—Hands are together at completion of stroke. Note that axe strikes upper side of log.

the size of the log. On a log one foot in diameter, start your cut ten inches wide. On bigger logs, this width decreases, so that a twenty-four inch log would need only about a nineteen-inch cut.

**Cutting a Log.**—Let us assume that you have a twelve-inch log to cut. You are standing on top of it ready to begin. You will start the cut ten inches wide and chop towards the center at an angle from both sides, so that

when the angles meet you will be exactly half-way through the log.

This type of cut is called the Flying Cut. Two different axe strokes are used;

**First—The Forehand Stroke.**—This is illustrated in Figure 19. Note carefully the position of legs, hips, and arms. The completion of this stroke is shown in Figure 20.

Your first series of strokes on the log will be delivered with the forehand stroke. The first stroke should strike the top side as shown in Figure 20 with a portion of the blade protruding *above* the cut. The second stroke should strike near the bottom side of the log as shown in Figure 21, with a portion of the blade protruding *below* the cut. By keeping a portion of the blade always in the clear, the blade



Fig. 21.—Second stroke should place the axe in the lower side of log as shown.



will not stick as readily as when the whole edge of the axe is in solid wood.

The third stroke should strike the center of the log as shown in Figure 22. Give the blade a twist as it imbeds itself in the wood in order to loosen the chip.

**The Backhand Stroke.**—The next series of strokes will be delivered from the other angle. This is called the *Backhand Stroke*, and is illustrated in Figure 23. Notice how the whole body faces in a different direction in order to bring the axe into line with the other face of your V-shaped cut, with the head still down and the eyes on the cut.

Deliver your series of strokes in the same manner: Top cut first; bottom cut second; middle cut last, with a twist of the blade to throw out the chip.

Now go back to the Forehand Stroke for three more strokes on the other face of your cut; then the Backhand again, and continue alternating in series until you are half-way through the log.

Then turn around and proceed in the same way on the other side of the log, and chop until the log is cut in two.

The important thing to remember is to chop with a series of strokes. Top; bottom; middle. This lifts out the chips at the top and bottom of your cut first,



Fig. 22.—Third stroke places the axe in the middle of log and throws out the chip.



Fig. 23.—Top position for Backhand Stroke, bringing axe into line with other face of V-shaped cut.

leaving the middle chip till last, so that the axe does not stick in solid wood. Also, your axe is following the grain and growth rings, making easier cutting.

On a bigger log the principle is the same: Top first; bottom second; except that you may need two, or even three strokes, to clear the middle chip, instead of one.

### Various Types of Cuts

The Flying Cut, just described, is the customary cut for a fallen log. The most popular cuts, each having its own particular advantages, are illustrated and described in Figure 24.

1. Flying Cut, customarily used in cutting fallen logs.
2. Broken Chip. This is simply a larger Flying Cut, used where the log is too large for the axe to throw out the chip with a single V-shaped cut. A smaller V is cut first, and the chip broken down from one side of it.
3. This is the Double Break. It is also used on large logs where a wide V-shaped cut is required. A smaller V is cut first, and the chips then broken from both sides.

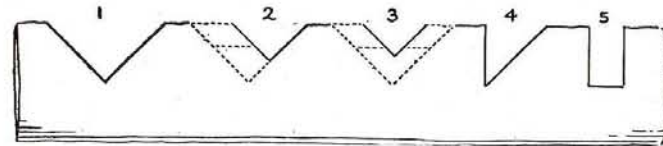


Fig. 24.—Various types of cuts for chopping trees or fallen logs.

4. **Box Cut.** This is used in cutting down trees or where one end of a fallen log is to be squared.
5. **Double Box Cut.** This is used where square ends are required on both sides of a cut.

### How to Split

There are many ways of splitting logs. If there is much splitting to do, the best equipment is a maul and iron wedges. But the man with an occasional log to split, can do it easily and quickly with two axes. This method is shown in Figure 25.

Study the grain of the wood, so that you split with the grain. Drive your first axe into the end of the log. Then drive the second axe in above it with the handle pointing in the opposite direction. The second axe loosens the first one. Drive the first axe in a few inches further along the cut. This will loosen the second axe. Continue progressing up the log in this



Fig. 25.—Splitting a log with two axes. One axe loosens the other as the chopper progresses up the log.

way, freeing one axe with the other, until the log is split.

Or one axe and a wooden wedge can be used as shown in Figure 26. Start the cut with an axe. Free it and drive in wedge. Continue along the log until split.

Small logs, of course, can be split with one axe.

In splitting with an axe, always give the axe a twisting motion to spread the cut and keep the axe from sticking.

**Hewing to the Line.**—When a square side is wanted on a round log, remove the bark first. Use a “chalk-line” to make a straight line down the length of the log.

Take an ordinary string or line and blacken it with charcoal or charred wood. Fasten it at one end of the log by nicking the wood with an axe and inserting the line. Carry the loose end of the line to the other end of the log, and sight along it until the string lays along the top of the log in a straight line. Nick the log and fasten the line at this end in the same way.

Now lift the line at the center of the log, as you would distend the string of a bow. Release it and let it fly back. Now remove the line, and you will have a straight, black line upon the surface of the log.

Then with an axe, cut a series of notches into the side of the log, stopping each at your marked line, as shown in Figure 27. Then start from the end of the log and true it up by trimming off the surplus wood along your line.



Fig. 26.—Splitting a log with an axe and wooden wedge.



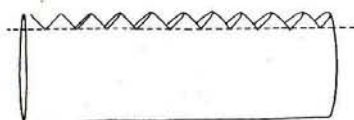


Fig. 27.—Notches cut into the side of a log to a straight line, and then trimmed off, give a square side.

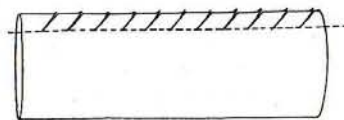


Fig. 28.—The same result can be secured by expert choppers with a series of gashes as illustrated.

Expert choppers often accomplish the same result by cutting a series of gashes, instead of notches, as shown in Figure 28. The surplus wood is then trimmed off along the "chalk-line" in the same way.

**Splitting Large Stakes.**—In splitting large stakes along their length, place the stake against a log or some standing object and hold the lower end firmly to the ground with your foot. Strike the upper end, twisting the blade as it enters the wood. This twist opens the cut and at the same time prevents the axe from cutting through the entire length of the stake and possibly striking your foot.

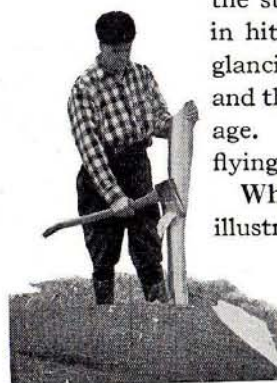


Fig. 29.—Proper grip on axe for whittling large stakes.

There is far less danger of striking your foot when the stake is held firmly, than there is in hitting at a free stake. It is the glancing blow, when the stake wobbles, and the axe skids off, that does the damage. There is also the risk of the stake flying up, when not held with the foot.

**Whittling Large Stakes.**—Figure 29 illustrates the proper method. The axe is held about six inches from the head.

**Pointing Small Stakes.**—Hold the axe right up against the head and *push* the blade with a circular shearing motion,

instead of an up-and-down stroke. See Figure 30.

A light, one-hand axe, of course, is preferable for whittling or pointing.

### Cutting to Firewood Length.—

There are several different methods to cut stakes into firewood lengths. I have illustrated in Figure 31 the method I find to be the easiest and safest.

The stake is placed so that the point where the axe is to strike is supported by solid wood. Drive your axe at an angle as shown in the illustration,

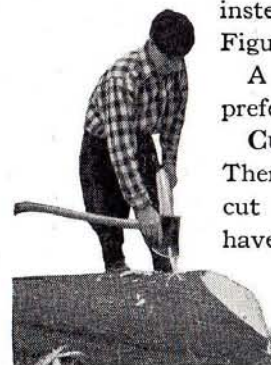


Fig. 30.—Proper grip for pointing small stakes. Blade is pushed with a circular shearing motion.

and as the blade cuts into the wood, tilt the axe head sharply so that it pins down the small piece which you have cut.

### Pointers on Chopping

Never chop through a knot if you can chop around it. It makes chopping hard, and you are likely to damage your axe. Figure 32 shows how a knot can be avoided in cutting.

Do not strike the ground with your axe. Dirt and stones will quickly dull and nick an edge.

When lopping off branches, never cut into the crotch, but from the under side as shown in Figure 33. It is easier on the axe because you are cutting



Fig. 31.—The safe way to cut firewood. Stake is supported on solid wood. Axe head pins down small piece as it is cut.

Fig. 32.—Avoiding a knot by chopping around it saves the axe and makes chopping easier.



with the grain, and it leaves the trunk smooth.

Warm your axe. A cold axe is brittle and easily chipped or cracked. If you have no ready means of taking the chill out of the steel, chop slowly for a few minutes to warm it up.



Fig. 33.—Lopping branches from the underside saves the axe, and leaves a smooth trunk. Never cut into the crotch.

## CHAPTER IV

### Felling a Tree

A tree can be hacked down in a haphazard, laborious fashion, or it can be dropped, easily and quickly—exactly where you want it to go.

The methods described in this chapter have been tested by a quarter-century of experience. They should prove invaluable to any man who uses an axe.

In order to demonstrate clearly the technique of using an axe to fell a tree, the photographs illustrating this chapter have been taken in a natural standing pose.

In actual practice, chopping in this position is not advisable as too high a stump is left standing. Much valuable timber is wasted by cutting a tree higher above the ground than is absolutely necessary.

**Determining the Lean of a Tree.**—Practically every tree has a natural *lean*, and will fall in the direction of this lean unless guided by the chopper.

Always determine the direction of this lean before commencing to chop. Do this by standing a few yards away from it and holding the axe up loosely by the

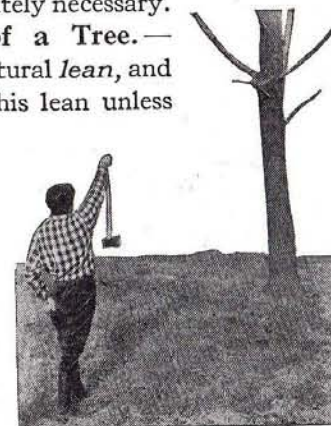


Fig. 34.—Determining the lean of a tree before chopping, by using the axe as a plumb line.