

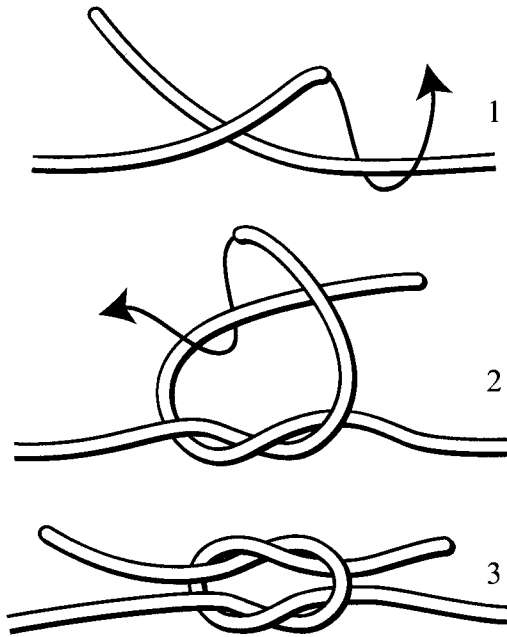
The Six Boy Scout Knots

version: 8-20-01

by John Geffre

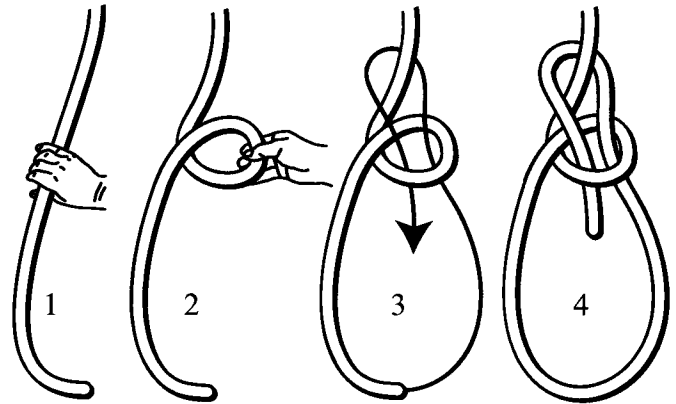
Square Knot

The square knot is used as a binding knot for such things as clamping a pad on a wound, tying a gathering rope on the male end of an extension cord, or as a shoestring knot. The bowknot we all use to tie our shoes with is really just a double slipped square knot. The books say not to use the square knot to tie two ropes together because it can untie itself under the right conditions but I have used a single slipped square knot to tie two ropes together for years without a problem yet.

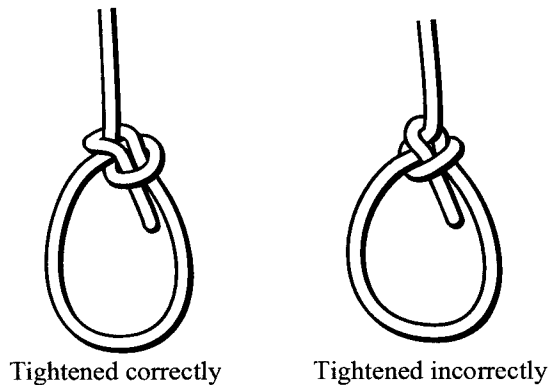


Bowline

The bowline is used to make a non-slip loop on the end of a rope. It is called the king of knots and it is so dependable that it can be used for rescue work.

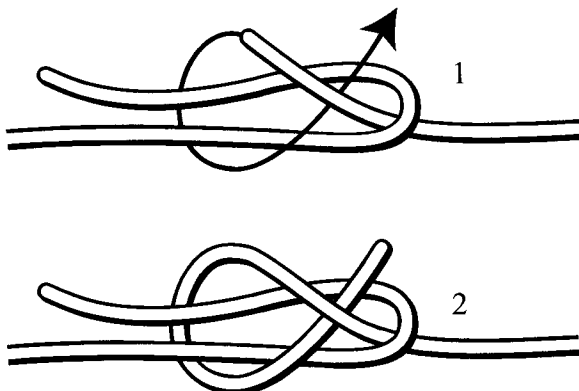


After the bowline has been formed, you must tighten it correctly like this.



Sheet Bend

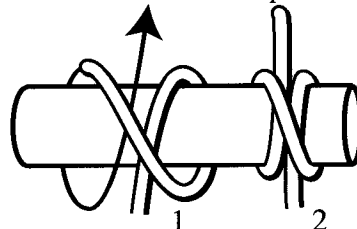
The sheet bend is the knot you are "supposed" to use to tie two ropes together. You can tie on to a sheet or blanket with it if you fold the corner of the sheet into a point and substitute it for the left rope below.



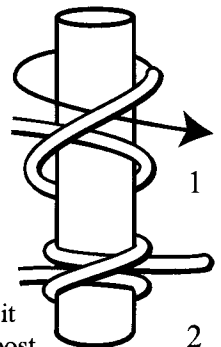
Clove Hitch

The clove hitch is known in the oilfield around here as a claw hitch. It is the best knot to use with stiff large diameter rope because it never makes a sharp bend. It is also used to start and finish lashings. A lashing is a series of wraps tying two poles together.

Here is how to tie it around a horizontal post.

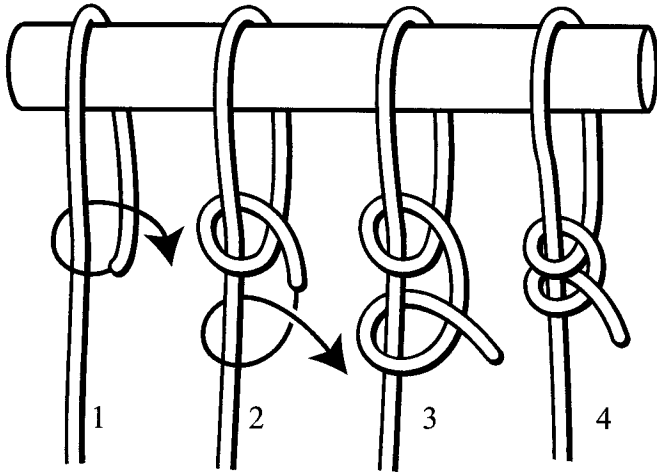


Here is how to tie it around a vertical post.



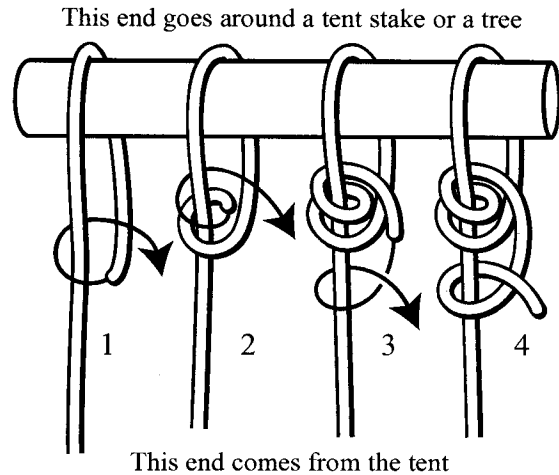
Two Half Hitches

Two half hitches is my favorite knot. You can tie onto almost anything with it. In the first step, if you go around the post one and a half times instead of just one half time as shown, you will make a knot called “a round turn and two half hitches” which will grip onto the post extremely well. If you go around the post two and a half times or more, you will make a knot called “the pipe hitch” which will form a death grip on the post.



Taut-line Hitch

The taut-line hitch is my least favorite of the six boy scout knots. It is used as an adjustable knot in tent guy lines and that’s about all it is used for. This knot has to be internally tightened quite tight for it to work properly. Two half hitches works almost as well as this knot for tent guy lines and the trucker’s knot works even better.



Other Useful Knots

Overhand Knot

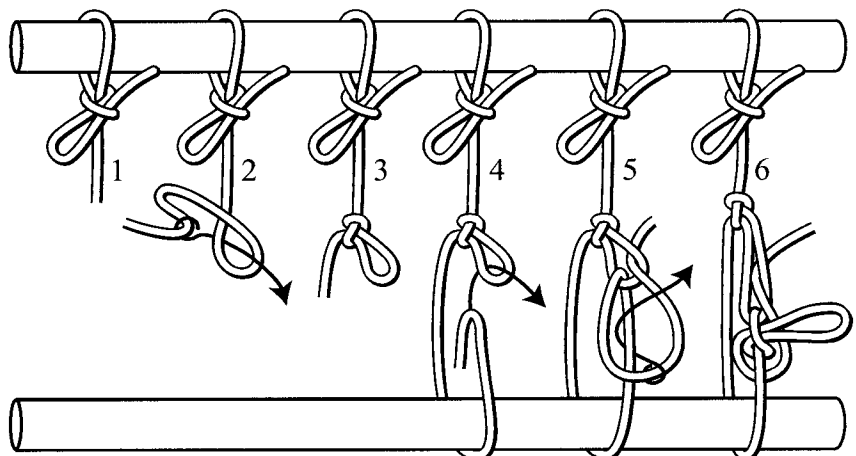
Use this knot on both ends of your rope to keep it from unraveling and as a “stopper” knot. I have found that I like a stopper knot better than “whipping” because both can come off the end of the rope but you can retie an overhand knot quickly and without having to find some whipping material.



The Trucker’s Knot

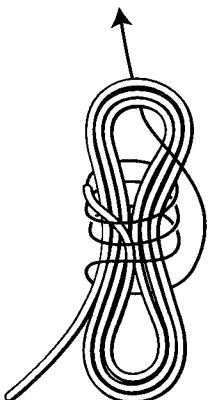
This is the most useful knot that I know of. Use it to make a very tight rope between two objects. The knot in step 1 can be a clove hitch, two half hitches, or my favorite the hitching tie as shown. The knot in step 3 is called the slip knot. In step 4 after you have pulled the “bight” (bight means “rope folded in half”) through the slip knot as tight as you can, pinch the crossing with your left thumb and forefinger so your right hand can tie the knot in step 5. The knot formed in step 5 is called a slippery half hitch or a slipped half hitch. By the way, a hitching tie is actually a slipped slip knot for anyone who cares about such things.

If you tie the trucker’s knot using a hitching tie as shown, the whole conglomeration can be untied with only four pulls in the right places. See if you can figure out which are the four right places.

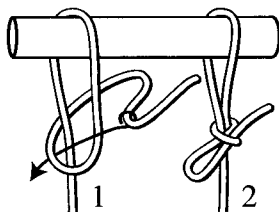


Coiling a Rope Hitching Tie

Learn how to do this, it is important.



So cowboy, how do YOU tie your horse to the hitchin’ rack? Learn how to tie this knot real fast and you can tie a rope to anything in about 3 seconds and untie it in nothing flat.



When to Use Knots and Lashings

A good knot must pass three tests: 1) It is easy to tie, 2) it stays tied, and 3) it is easy to untie.

Below are 12 knots that fall into five categories. Also below are methods to prevent rope ends from fraying.

The five categories for these knots are bindings, bends, loops, hitches and lashings.

BINDING KNOTS

A binding knot restricts an object(s) with a single line. Tying your shoe and tying up package are examples of binding knots.



A **square knot** tied with a single rope line is a binding knot.

Use a binding knot to tie bandages, packages or most any type of object.

BEND KNOTS

A bend knot joins two separate rope lines together.

- A **square knot**, also called a reef knot or joining knot, can be used to join two lines of the same diameter (thickness).



A **sheet bend** joins two lines of different diameters.

Use a bend knot to lengthen a rope by tying two lines together.

LOOP KNOTS

A loop knot creates a closed circle at the end of a line.



A **bowline** ties a loop that will not adjust in size once tied. It is referred to as a rescue knot because it can be tied around oneself one-handed, and is used to lift people out of dangerous situations.

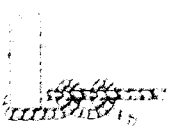


A **taut-line hitch** is actually a loop knot that easily adjusts its loop size under tension, but remains secure once the knot is taut (pulled tight).

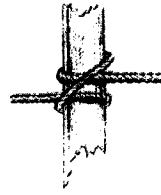
Use a loop knot for tying down cargo, hold down a automobile's trunk lid or hold just about anything in place.

HITCH KNOTS

A hitch ties a rope to an object like a post or ring. Think of hitching a horse to a "hitching post."



Two half-hitches is knot that holds a line when being pulled from a post in one direction.



A **clove hitch** is a knot that holds a line to a post when being pulled in two directions, like a bridge's rope handrail. *Clove* means "two" just like a deer's hooves are cloven – in two parts.

Use a hitch knot anywhere an attachment of a line is needed such as posts, eye ring grommets, or stakes. The clove hitch pulls from two directions like securing lines along a series of posts, or as starting or ending of a lashing (see below).

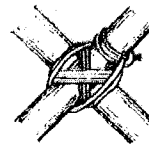


A **timber hitch** ties a rope to a piece of wood; it is intentionally difficult to undo.

Use a timber hitch to secure a line to a tree, a log or to drag a log along the ground. The timber hitch is used to start a diagonal lashing (see below).

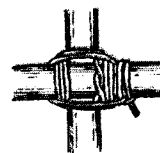
LASHING KNOTS

A lashing knot holds two poles together; think of the log wall forts of the American frontier.



A **diagonal lashing** begins with a timber hitch and ends with a clove hitch. This lashing binds poles that cross each other at a 45° to 90° angle. Cross bracing at 90° is only used if a gap exists between poles.

Use a diagonal lashing to secure a line to a tree, a log or to drag a log along the ground.



A **square lashing** begins and ends with a clove hitch and binds poles at a 90° angle. It is stronger than the diagonal lashing, but the square lashing cannot be used if a gap exists between poles.



A **shear lashing** begins and ends with a clove hitch and binds poles at a 0° to 45° angle. Use this when poles must flexibly swing apart in a scissors motion such as the shear legs of an A-frame.



A **tripod lashing** begins and ends with a clove hitch and binds poles to be arranged to form a pyramid. Use this to hang a pot above a fire or hold a water-dispensing device over the ground.

Use lashings to build without nails useful simple structures like a tripod, a chair, a hang-drying rack or a flagpole. *Pioneering* is the use of spars and lashings to build complex structures with trestle triangles like a tower, a shelter or a bridge.

There are times to not use lashings. Do not build structures without permission while camping – never build lashing structures in backcountry. If lashing is permitted, only use approved materials, then untie all structures and practice principles of leave no trace.

WHIPPING

Whipping intends to stop a rope end from unraveling.

- Tie a rope end with a simple **overhand knot** and wrap it with **duct tape** for a temporary fix.



A **whipping knot** uses twine to bind natural-fiber rope.



Heat fusing with a candle or match melts the end of artificial-fiber ropes made of plastic or nylon.

References:

- <http://www.ropeworks.biz>
- The Boy Scout Handbook

Step-By-Step: Basic Scout Knots

Overhand Knot



Right over left...

Square Knot (or Reef knot, the classic joining knot.)



Left over right...



makes a knot tidy...



and tight.

Granny Knot

(The Granny knot is very UNSAFE. This is why your shoelaces come untied!)



Right over left...



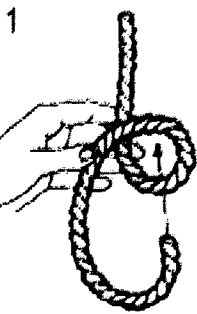
Right over left...



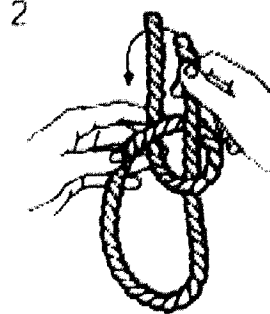
makes a knot ugly and *WRONG*.

Bowline

(The rescue knot.)



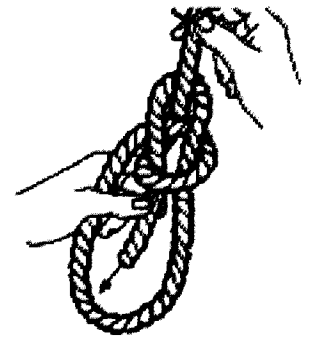
1 Make a loop (top to you).



2 The rabbit goes out of the hole...



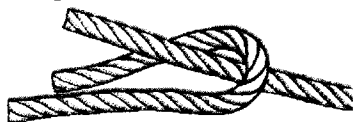
3 around the tree...



and back into the hole.

Sheet Bend

(Stronger than a Square Knot, especially good for joining different size lines..)

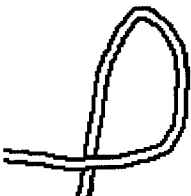


Make a loop in one end. The rabbit goes out of the hole... around the tree

back under his *path*.

Slip Knot

(Warning: This is a type of noose! This is a quick cinch knot.)



Make a loop.

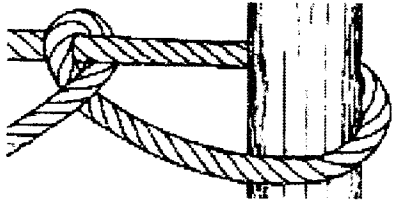


Pull a loop up through the loop.



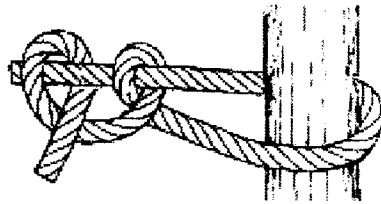
Pull tight.

Half Hitch



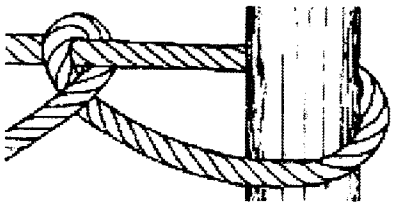
Loop over the top (*Half Hitch*)

Two Half Hitches (*Taught-Line is much stronger.*)

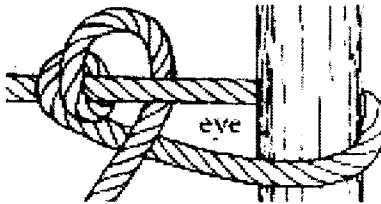


Second Half Hitch on the outside. Pull tight.

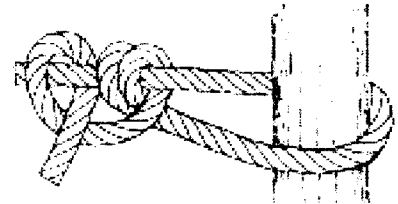
Taut-Line Hitch (*Perfect for tying down your truck lid or a tent guy line.*)



Loop over the top (*Half Hitch*)

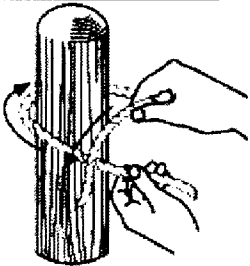


Loop over the top again.

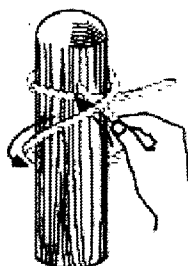


One last loop outside. Pull tight.

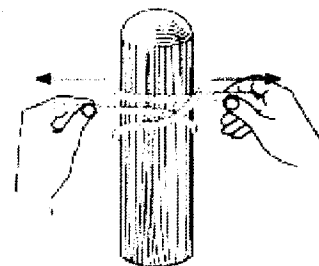
Clove Hitch (*For tying a rope to a tree or pole.*)



Loop over the top.

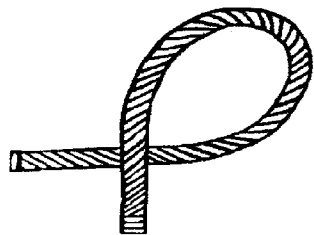


Loop around again below.

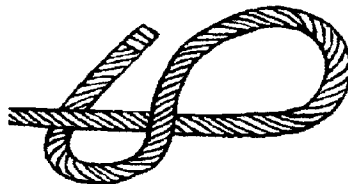


Pull through the hole.

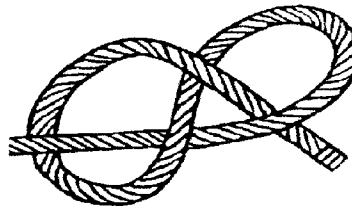
Figure-Eight (*This classic "stopper knot keeps knots in place.*)



Loop over the top



Loop under



Go through the hole



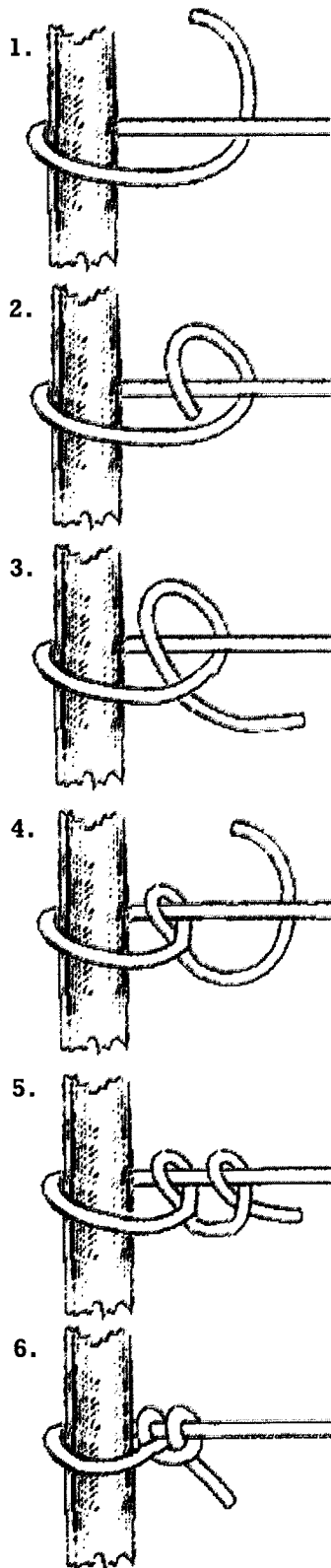
Pull tight

Tie a Line to a Post or Ring

Holds a line in one direction.

Two Half Hitches

Knot does not adjust

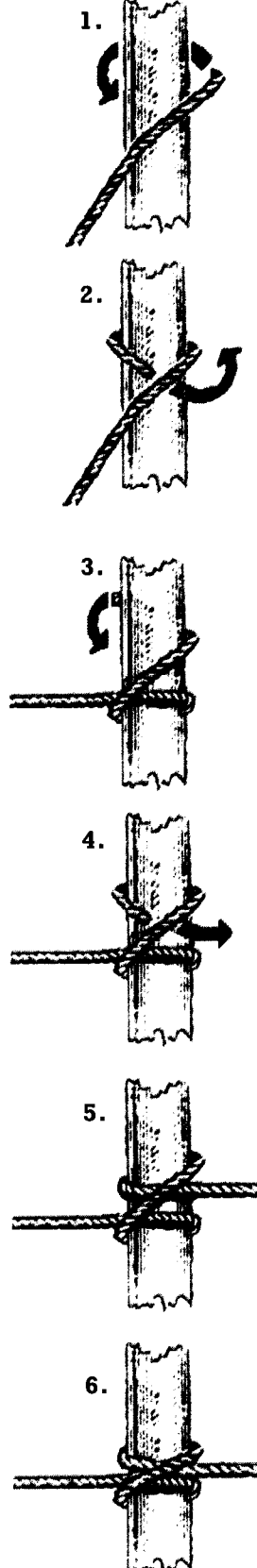


Holds a line in two directions.

Clove Hitch

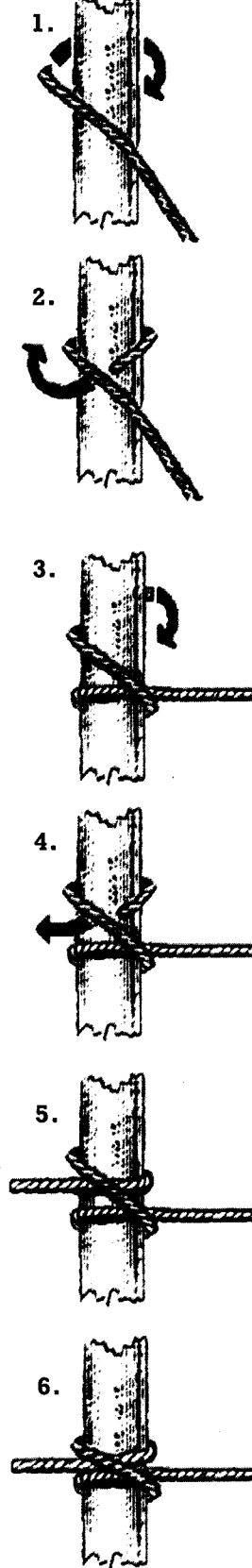
Option 1:

Bottom-up, left to right-terminating line.



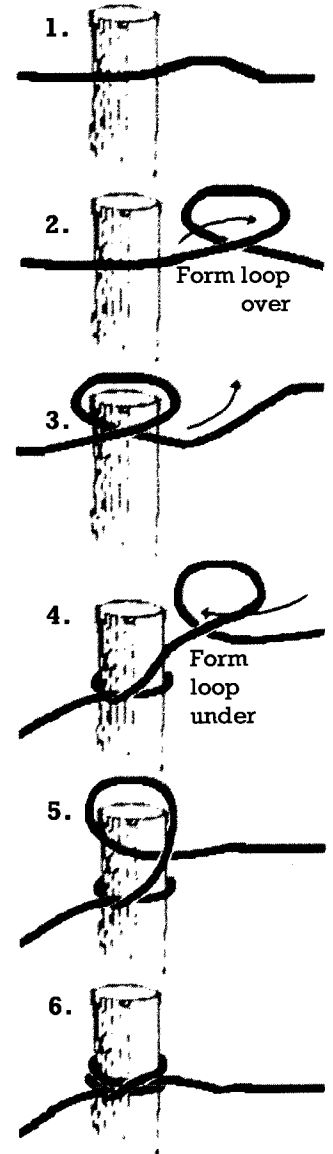
Option 2:

Bottom-up, right to left-terminating line.



Option 3:

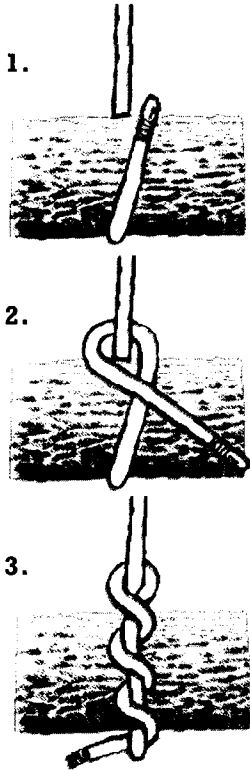
Looping line over the end of a post.



Tie a Line to a Piece of Wood

Knot is intentionally difficult to undo.

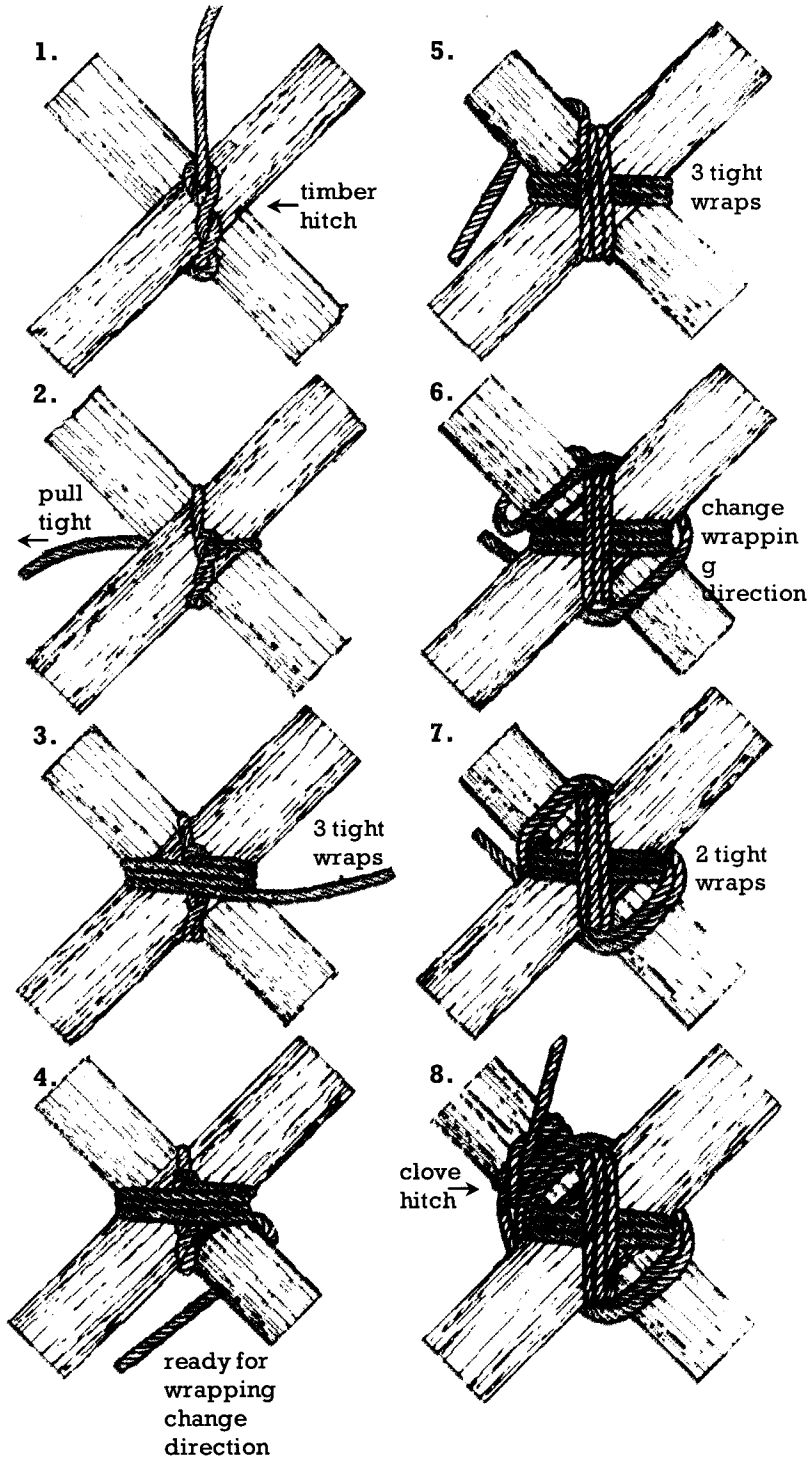
Timber Hitch



Lash Two Poles at a 45° to 90° Angle

Use at 90° only if gap exists between poles.

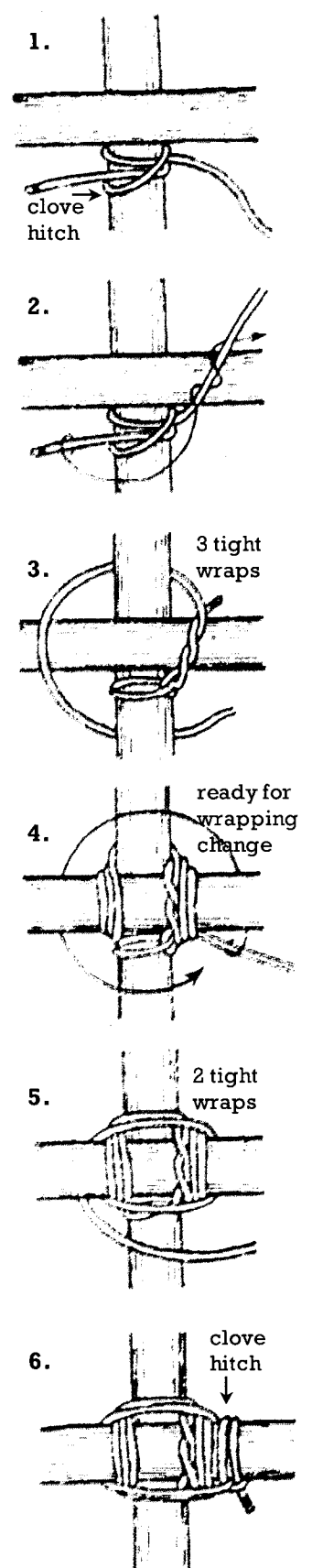
Diagonal Lashing



Lash Two Poles at a 90° Angle

Stronger than diagonal lashing.

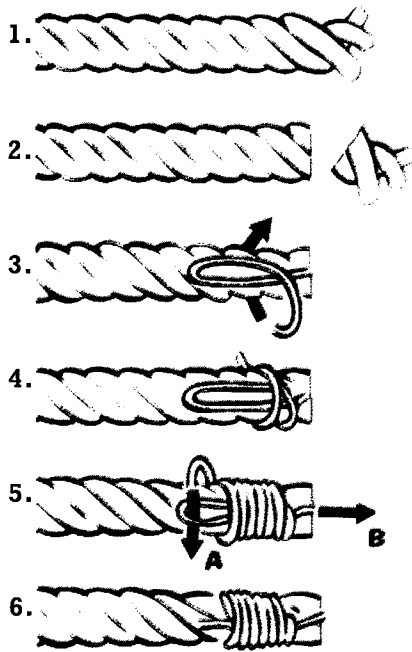
Square Lashing



Stop a Rope Line from Unraveling

Natural-fiber rope.

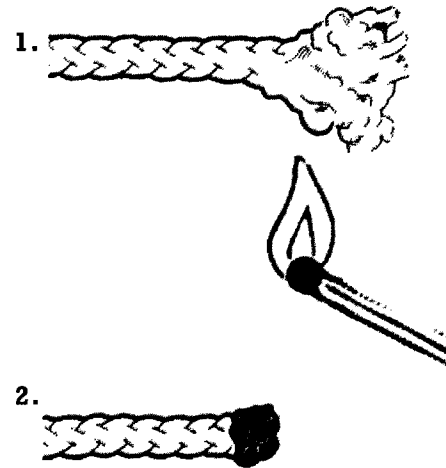
Common Whipping Knot



See: http://en.wikipedia.org/wiki/Common_whipping

Artificial-fiber rope.

Heat Fusing



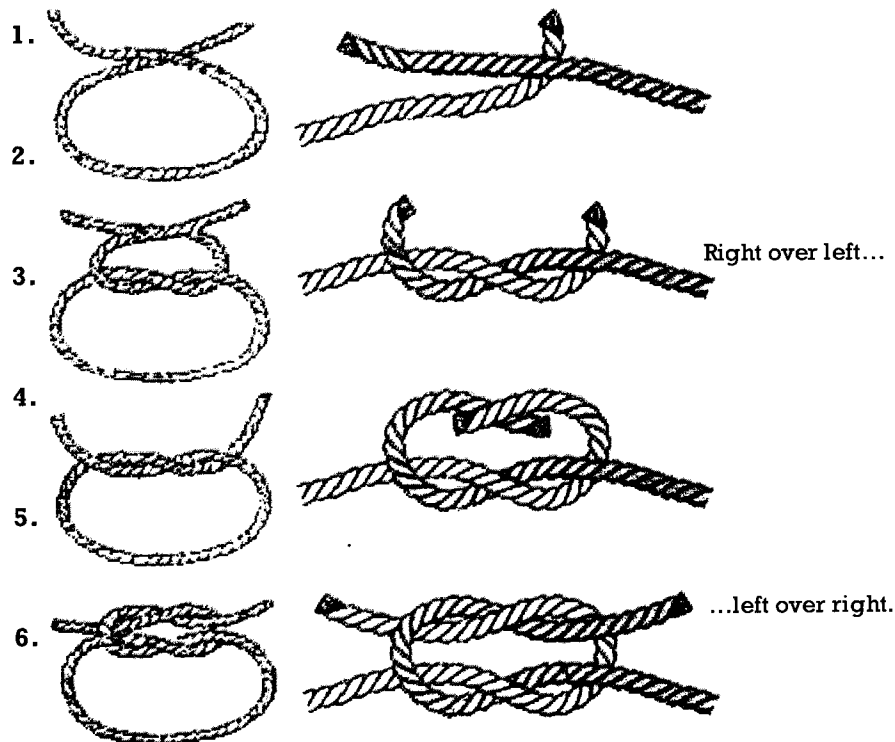
See: The Boy Scout Handbook, pg. 34

Bind an Object

Using a single line.

Square Knot

Knot detail view



Join Two Lines

Lines of same diameter.

Lines of different diameters.

Square Knot



Sheet Bend



Underneath same line, but on top of second line.

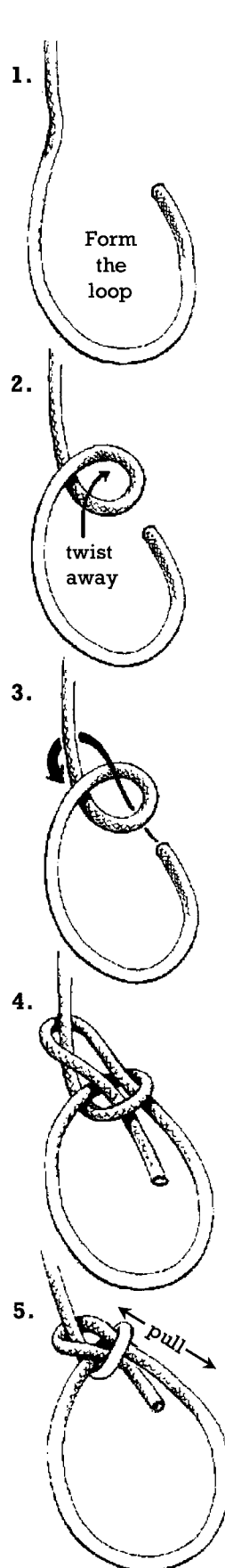
See: <http://www.ropeworks.biz/archive/sheben.html>

Tie a Loop at the End of a Line

A fixed size loop.

An adjustable size loop.

Bowline



Taut-line Hitch

