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# Types of Knots

**Stopper Knots** - Used to stop something sliding down a rope for example

**Binding Knots** - Used to tie a parcel up for example

**Bends** - Used to join two ropes together

**Hitches** - Used to secure one end of a rope to a pole or ring

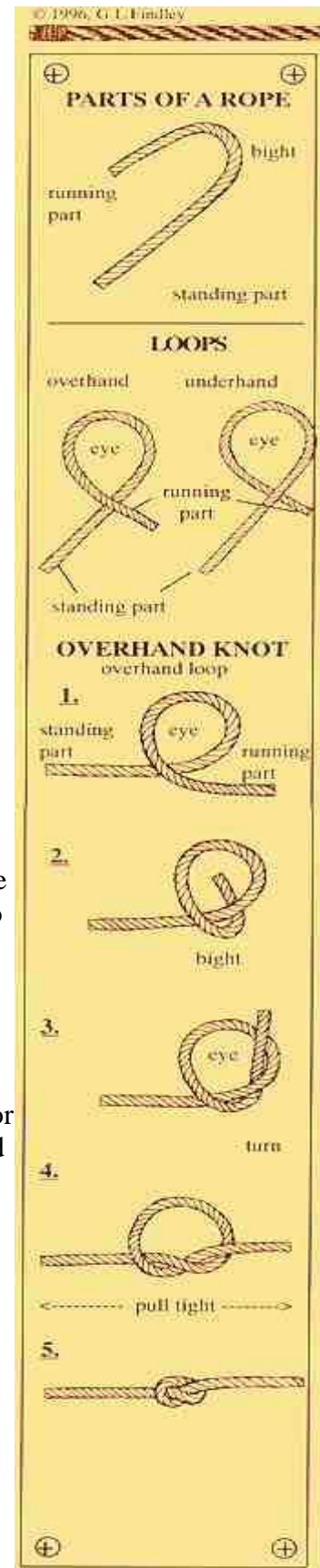
**Loops** - Used to form fixed and slipped loops

**Splices** - A good method of joining two ropes together permanently

**Whippings** - Used to protect the end of a rope from fraying

# Knot Safety

If a knot is improperly tied or a wrong knot is used, an unsafe condition is created. Therefore it is not just enough for the teacher to teach someone how to tie a knot correctly, but it is also necessary to teach them how to use the knot correctly. Likewise it is the student's responsibility to learn how to correctly tie and use the knot. If either the teacher or the student does not accept their responsibility they are endangering themselves and others. The most commonly used rope is right hand-lay rope; that is as you are looking at the rope, it appears to twist to the right and away from you. Because of the right-hand lay of most rope, the majority of knots hold best when tied in a right hand manner. If the knot is tied in a left-hand manner or the mirror image of its usual form, the knot may fail because the right-hand twist of the rope may cause the knot to loosen or spill more easily. This is especially true if the tension on the rope is repeatedly changed.



# Bends (Nút Chết, Nút Gai, Nút Dây)

## The Reef Knot (Nút Dệt)

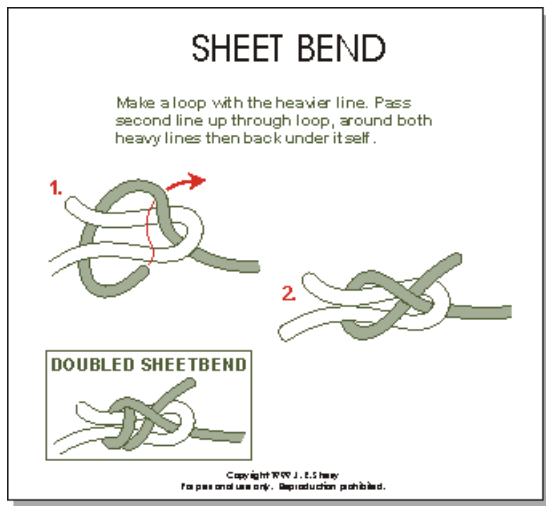


The reef-knot is only useful in simple applications. Ashley says "it is a true Binder Knot, for which it is admirable, but under no circumstances should it be used as a bend." It is easy tied and will not jam, so it is always easy to untie. It is used to tie packages, and as a base for the shoe-bow. Sailors used it for binding rolled sails or better reefed sails. And that is where it got its English name from. Americans call it the square knot. Probably because it looks square, or because it was much used on square-rigged-ships, but that is a total guess of me. Its relatives, the granny, the thief-knot and the what-knot all have their purposes, but not as a trustful knot.

## Sheet Bend (Nút Thợ Dệt)

The sheet bend is my favorite bend. Be careful. With the loose end on the wrong side you have another, weaker knot (Left-hand sheetbend). If the knot is well seized it does not matter if it is tied right or left handed

The Sheet Bend is a good knot for tying two lines together. Strong and easy to tie, it works particularly well joining lines of differing sizes. In its doubled form, this knot will even hold in slippery nylon rope.



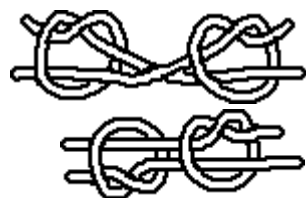
## Carrick Bend / Josephine Knot

Also known as Full carrick Bend, Sailor's Knot and Anchor Bend. Beware! There are not many knots with so much wrong drawings as this bend. The ends have to be on opposite sides and the crossings always are alternating up/down/up/down... The Carrick Bend is one of the best knots. Ashley states it is possible the nearest thing we have to a perfect bend. It does not easily slip, not even if the rope is wet. And it is always easy to untie, also after a heavy load. If used as a Hawser bend in heavy material it is always seized and parceled to save wear.



## The Josephine Knot

In the Macrame this knot is called the Josephine Knot. It is self evident the Josephine knot is not seized nor pulled tight.



## True Lovers or Fisherman's Knot (Nút Dây Cầu)

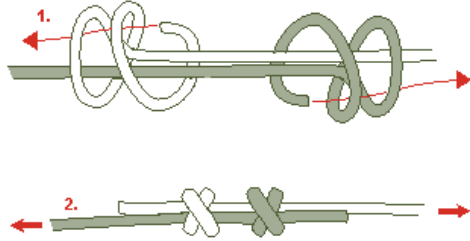
The True Lovers, or Fisherman's Knot may be laid in two different ways. Which of both the is the stronger, I do not know.

With two equal overhand knots it is symmetrical. This is probably the most used variant.

With two different overhand knots you get the most beautiful version (always work it up neatly!)

Only ... The double eight is stronger, easier to untie after use and as decorative from all sides as the true lovers at best.

## DOUBLE FISHERMAN'S



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### **Double Fisherman's**

The Double Fisherman's Knot securely ties two ropes together or can be used to tie the ends of rope or cord together to form loops. Another use for this knot is to make another knot more secure by tying this knot in the running end of the rope behind another knot, a practice common to mountain climbers. In that case, you are effectively tying the Double Fisherman's around the standing line of the other knot.

# Hitches (N<sup>o</sup>t C<sup>o</sup>, Gi<sup>o</sup> & K<sup>o</sup>)

## Single Hitch (also called The Simple Hitch)



Although this is probably the simplest knot of all, you have to be a skilled knot-tyer to know how to tie and use it in a safe way. The loose end of the rope is nipped against the object and the standing part. The best nip is obtained against an edge or shoulder. If the load is released and the standing part shaken, the hitch is spilled instantly.

It is used to attach rope to a belay-pin, a weaver needle or even to a tree branch, to start belaying, to start winding or as a temporary easy to spill made-fast.

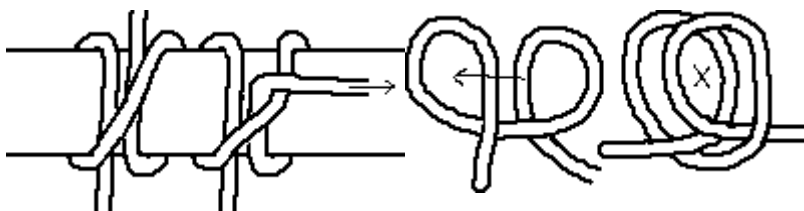


## Half Hitch

This is the capsized overhand knot. It is very useful to carry light loads which have to be removed easily. Ashley recommends it to use it for hanging store to out of reach for mice. It should not be disturbed.

## Clove Hitch (Nút Quai Chèo)

This is a very important knot of only theoretical value. Without extra support, it is untrustworthy in any situation, except as a crossing knot. You have to learn it for scouting and at sailing schools. If you have to use it, work it up properly; pull length-wise only at both ends before you load the working end.



## Two Half Hitches



The two half hitches is used for tying a rope with a right-angle pull to a pole or ring. It should be constant under load. (Not under constant load). It does not jam. If the object you tie it on has a small diameter it is better to use the "Round Turn with Two Half Hitches". This is the same knot but with an extra turn round the object.

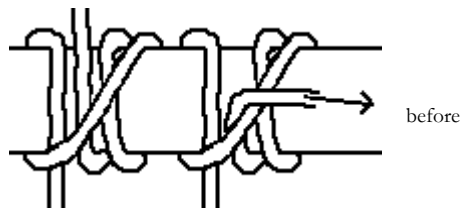
## Buntline Hitch

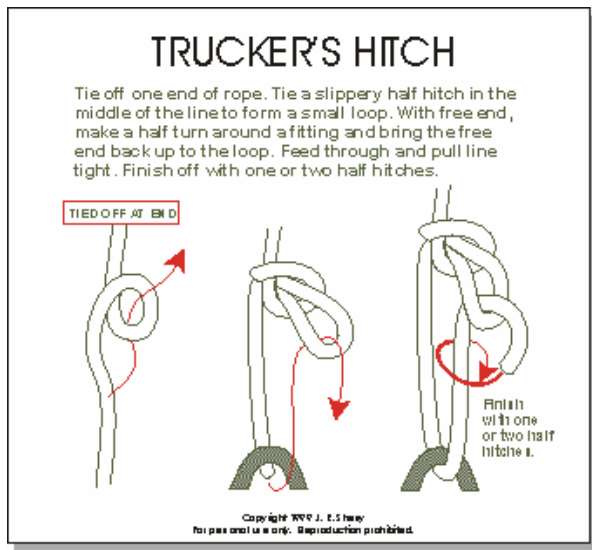


The Buntline Hitch is (was) used to tie a buntline to a square sail. It is a secure knot, but it tends to jam, so it is not easy to untie. Therefore, it is useful for work that will be left unattended for longer periods, since it will not untie suddenly.

## Rolling Hitch or Magnus and Magner's Hitch

The best simple hitch for lengthwise pull. It needs to be laid very carefully and pulled firmly loading. Never use it for right angle pull, for it will spill.





### Trucker's Hitch

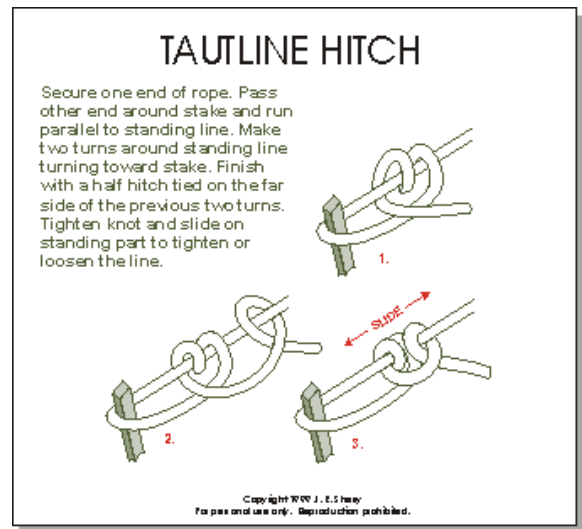
The Trucker's Hitch is one of those knots that once you learn it, you wonder how you ever got along without it! Use this knot to cinch down a load on your car top, boat, horseback, you name it. This combination of knots allows a line to be pulled tight as a guitar string!

### Tautline Hitch (Midshipmans Hitch)

This is a remarkably useful knot. It is adjustable AND trustworthy. Each sailor should know how to tie this knot in any circumstance. Especially to tie himself to a rescue rope thrown to him in the water. On the lifeline he has to hold the loose end securely to the standing part. This gives a good grip and a useful goal in this critical situation (HOLD!)

Anyone who uses a tent should know this knot. It is the best way to adjust your lines to the tent-poles.

It is the most simple of the adjustable knot family.



### Adjustable or Jamming Hitch



This brother of the midshipmans Hitch is just a bit less important. This is because it tends to jam. When jamming is desirable, this knot is o.k., as when work will be left unattended. Ashley states it was used by cotton brokers in New Bedford to tie their cotton samples they took from mill to mill. The packages could be opened and closed at will, and still be secure when left alone at travel.

### The Cow Hitch (Nút Sơn Ca)

This hitch is really useful for tying a cow to a pole so it can graze round it. I myself would add an overhand knot at the loose end as a stopper. But I am not a farmer. Sailors use it to secure a lanyard to a shroud.



### Reversed Half Hitches



This knot is used to tie guy-ropes to tent-poles. But it is inferior to the tautline hitch. The only reason I have included it in the elementary hitches is because its topology places it there. I see no use for it. (Please let me know if you know an application where this knot is the best knot to use.) A keen eye will recognize a capsized Reefknot in it.

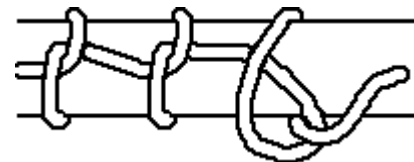
### Lobster Buoy Hitch

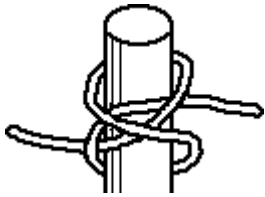


The Lobster Buoy Hitch is almost as secure as the Buntline Hitch, but more easy to untie. It is used to tie timber.

### Marline Hitch or Single Hitch (Nút Chân Ngỗng)

This hitch is very practical to lash long objects. The working end needs only one tug and will not slip easy. Before the 'tiwrap' (or how are they called) this hitch was used by electrical engineers to tie 'wiring-trees' A row marlshitches is best started and ended with a double marlshitch.





**Constrictor Hitch**

The constrictor knot is important as temporary whipping and as permanent binding from which you need more than one in a row, but not in line (when you should use the strangle knot). Laid well, it is virtually impossible to untie without tools (needle or knife). Never use it if you need to untie it. It is almost the strongest among the 'simple' hitches. Only the double constrictor is stronger. Because the constrictor may be tied in a bight, it is often preferred over the strangle knot.

**ROLLING HITCH**

Take two turns around a post crossing over the standing part with both turns. Take one more turn around, wrapping above standing part, and feed free end through the last turn.

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**Rolling Hitch**

The Rolling Hitch is a very secure and easy to tie method of fastening a rope to a post. The knot holds firmly in the direction of the standing line.

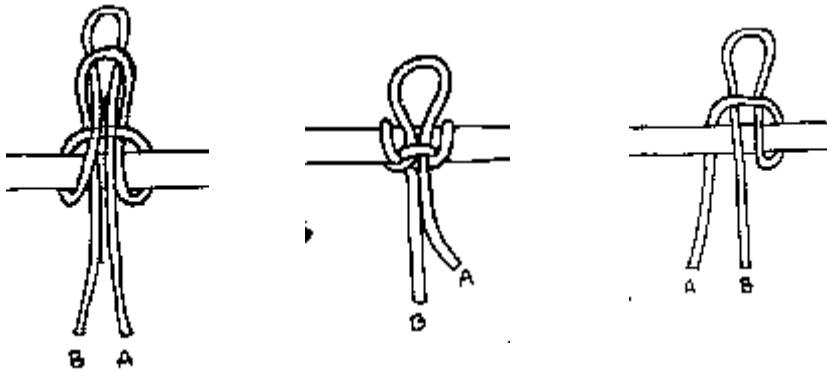


**Timber Hitch**

Used to secure a rope to a log or bundle of logs, also to start diagonal lashing.

**Highwayman's Hitch**

This knot can bear one's weight on one strand of the rope and can be untied by just pulling on the other strand. End 'B' is the load-bearing end. NOT RECOMMENDED for climbing, but excellent for robbing stagecoaches, when you want to get away quick with your rope.



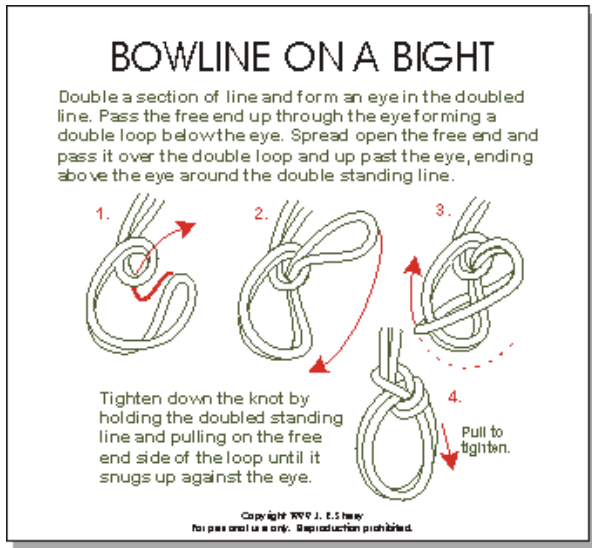
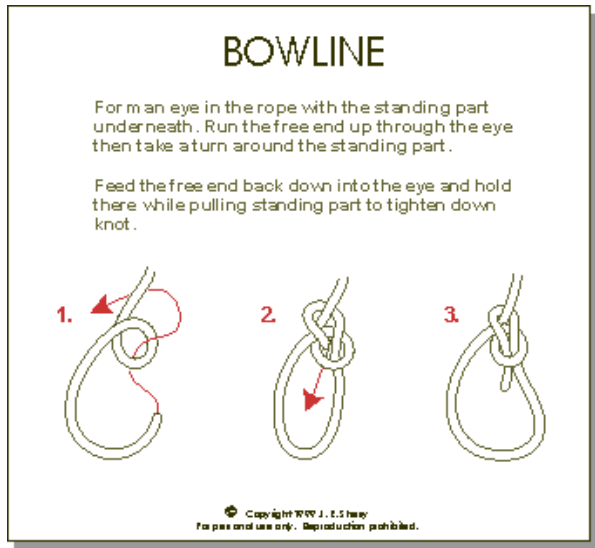
# Loops

## Bowline (Ghế Đòn)

The Bowline is one of the most useful knots you can know. In fact, if you only were to commit one knot to memory, this should probably be the one! The bowline forms a secure loop that will not jam and is easy to tie and untie. It can be tied around objects, can be tied into any size loop and even after being under load can be untied - truly a versatile trusty knot!

## Bowline On A Bight (Ghế Kép)

This knot forms a bowline in the middle of a line. This can be useful when you want a non-slip loop but a free end isn't handy.



## Double Figure-of-eight loop.

The double eight is a knot used by climbers. It is easy to tie and safer as the bowline. There is a discussion whether there should be a stopper at the end of the loose end or not. Speed of (un)tying is a safety factor itself.



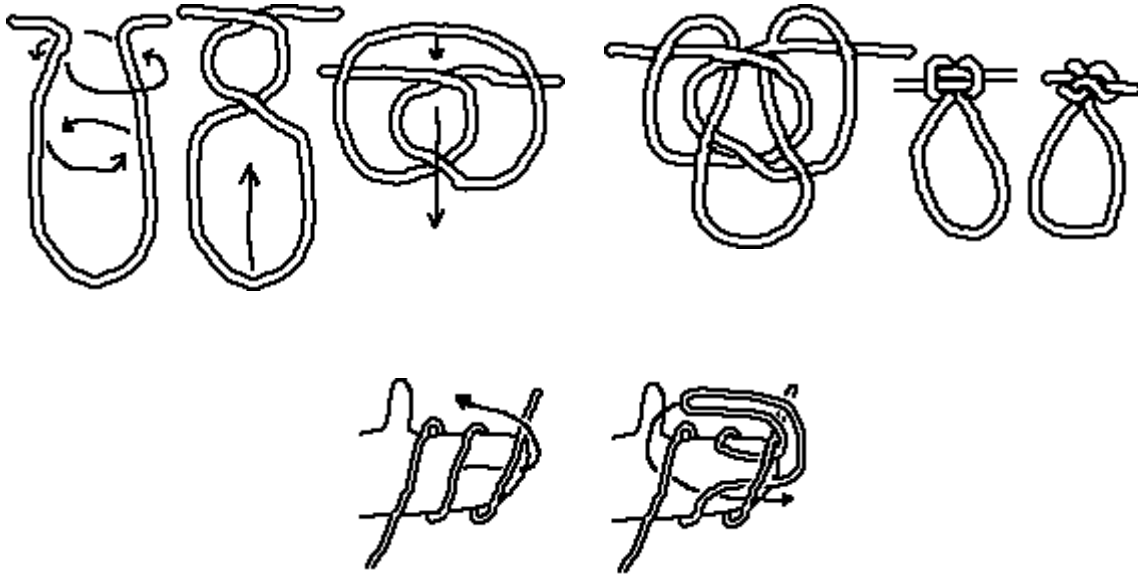
It is generally rated at 70% - 75% of rope strength. Due to its strength and the fact that it is easy to visually inspect, it is commonly used by climbers as their "tie-in knot" - the knot that connects the climber to the rope. It forms a secure non-slip loop at the end of a rope. For even greater security, finish the tag end with a backup knot such as the [Fisherman's](#).



If the loop is to be tied round something (round "your waist" for instance) you first tie an eight then lay the loop and double the eight. It is important to have enough rope for the loop. It requires experience, so start practicing.

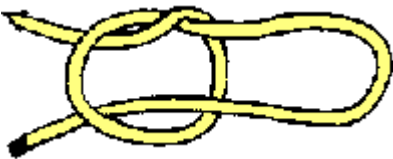
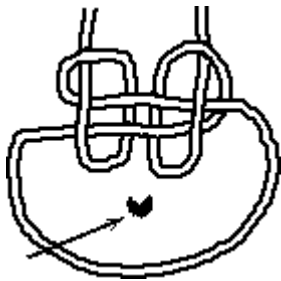
**The Butterfly or Lineman's Loop**

An excellent easy to tie loop for applications needing a loop in another place than the rope-end, but somewhere in the middle. It has an excellent lead, and is secure even if the forces on both ends are stronger than the load in the loop.



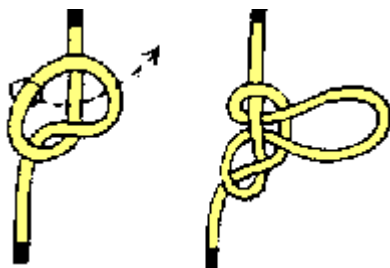
**The Pendant Hitch**

A hitch to tie a pebble or a breastplate to a necklace. You have to make sure the object is secured in the loop. If you use a loop (this loop) to tie a pebble or other nice stone to a neck loop without extra (visible) support it is wise to use a leather neck loop. Make a cut in the length of the inside of the loop. Not too deep; it is only to roughen the surface to improve the grip of the knot. And last but not least..... use a good shoemakers glue. The result is surprising.



**Slip Knot (Thòng Lòng)**

Used where the strain on the standing part will hold the knot.

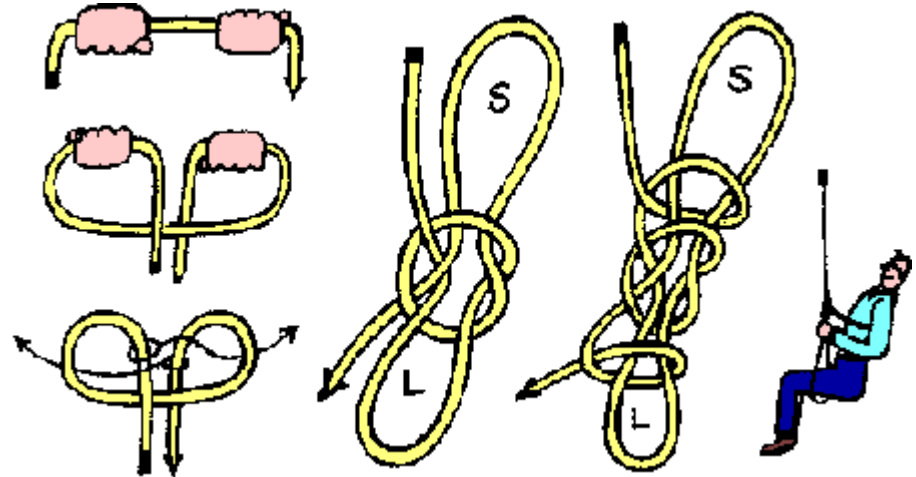


**Man Harness**

Used to make a series of non slip loops in a rope. It can be used to harness people for a pull.

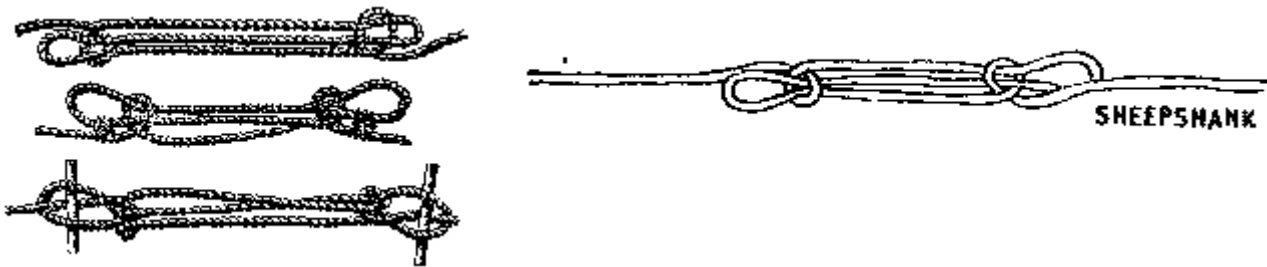
**Chair Knot (Cứu Hỏa)**

Used in rescue work. Particularly useful for unconscious patients. Note the position of the locking hitches. The knot should be positioned at chest height.



**Sheepshank (Chân Chó)**

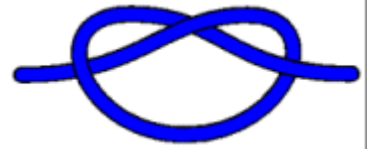
A knot tied in the bight for shortening a rope or taking up the slack, without cutting it. It can also be used to protect a weak, damaged or frayed section of the rope. See also Tom Fool Knot.



# Stoppers - knots on the end

## The Overhand Knot or Half Knot (Nút Đon)

This is the simplest knot. Therefore probably the most used. The knot is very useful to support knots in yarns. The loose ends become a bit thicker. When this support makes the total bend too bulky you have to look for another bend. The overhand knot is not strong, so it is not used in situations where you might expect great force. It also reduces the strength of the rope or yarn by about 50%. But as an "anti-slip-knot" it does not have to withstand a lot.



## The Double Overhand Knot



The double overhand knot is beautiful, thicker than the common overhand knot, but not any stronger. But use it with caution. The double overhand knot is also called the bloodknot when it is used at the end of a whip. This knot has several ways of tying and in principle two ways of working up. Both ways of tying shown here also show both results. The bloodknot shown in the middle is the preferred way of working up the second way of tying marked with the crosses. The bloodknot is very hard to untie after it has been under stress. If you put an object through the cross-marked hole the knot will work up as the [strangleknot](#). It is usefull to practice this way.

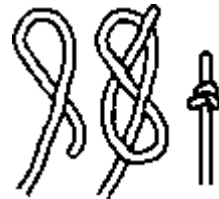
## The Multifold-Overhand-knot



If you make more than two turns in the overhand knot it wil be fatter. (But hardly stronger.) In twined rope it is important to work up the knot very carefully. (It will not only look neater, it wil prevent 'kinking' which will weaken the rope even more!)

## The Figure of Eight (Nút Số 8)

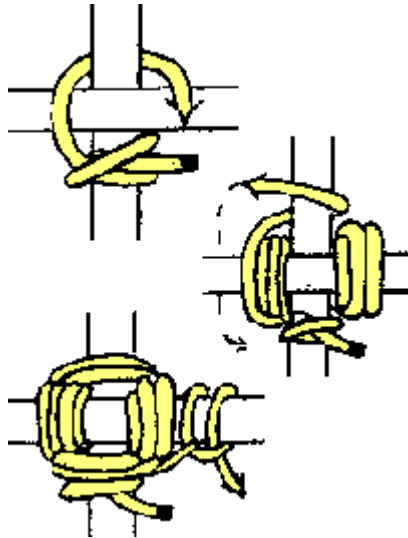
This knot is larger, stronger and more easy to untie than the overhand knot. It does not harm your rope as much as the overhand knot does. So therefore sailors use this knot in most cases. (! not for bend support, where the smaller overhand is used, or in rope, a permanent small stopper)



# Lashings

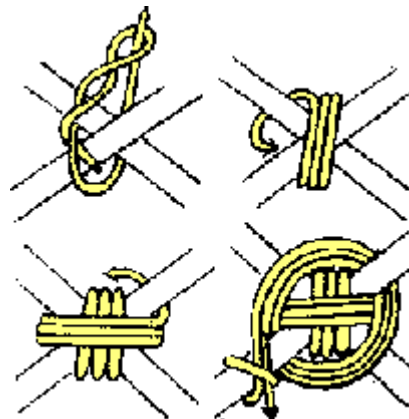
## Square Lashing

Used to hold poles at right angles.



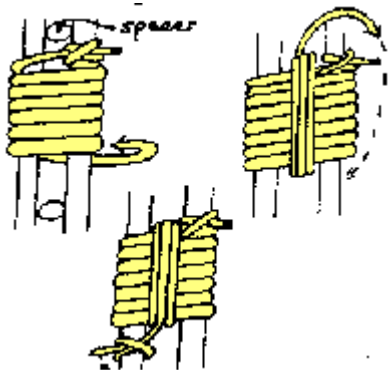
## Diagonal Lashing

Used when two crossing spars spring apart to hold them together.



## Shear Lashing

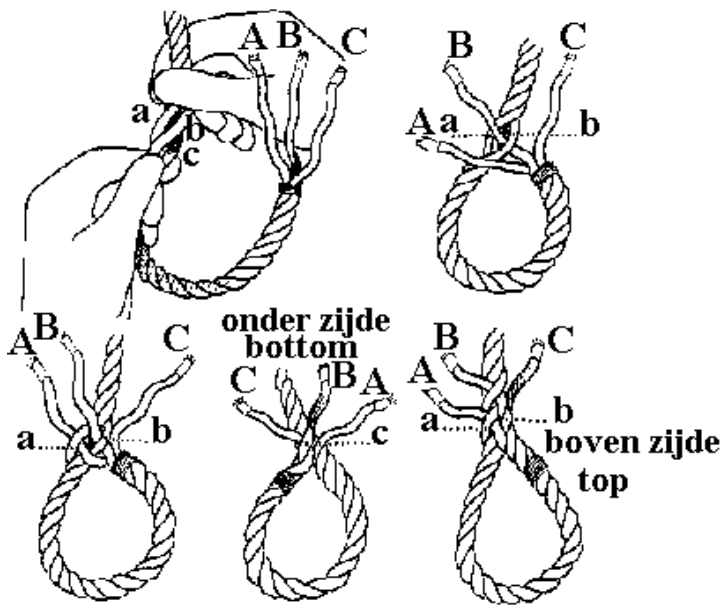
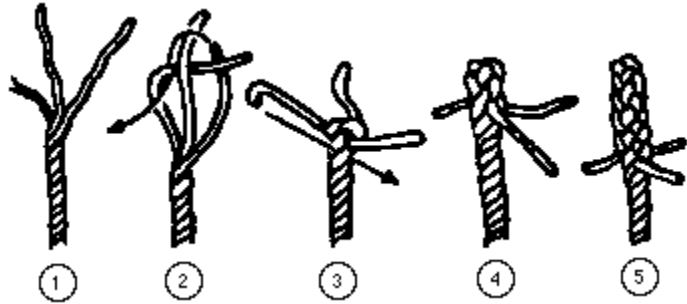
Used to lash two poles to form legs in construction.



# Splices

## End- or Back Splice

The End- or Backsplice is used to avoid a rope from fraying. The disadvantage is that back-spliced ropes are not useable for tackles and in blocks anymore. This splice is started with a crown knot. After this each strand is tucked over one, under one for several times. When finished, trim the remaining ends.



## Eye Splice

The Eye Splice is used to make a permanent noose (eye or loop) at the end of a rope. Take care that you ALWAYS start tucking in with the middle strand. Work tight after each tuck. Make a total of three series of tucks. Now you can do a few more tucks. Halve each strand and tuck in. This will give you the effect of a tapered splice.

**Short Splice (right)**

The Short Splice is used to connect two ropes of equal thickness together. The result is a rope with a thickening in it. This makes it difficult or even impossible to run this rope through a block. This splice is stronger than the Long Splice.

**Cut- or Cont Splice (below)**

The Cut Splice is used to make a loop in the middle of a rope so it can be used e.g. for securing a mast. The Cut Splice is made in the same way the Eye Splice is made.

