

KNOW YOUR KNOTS

DECK SEAMANSHIP



Deck Seamanship

The skills used in the conduct of shipboard evolutions such as cargo handling, underway replenishment, and mooring, requiring the use of lines, anchoring gear, and other such equipment



Marlinspike Seamanship

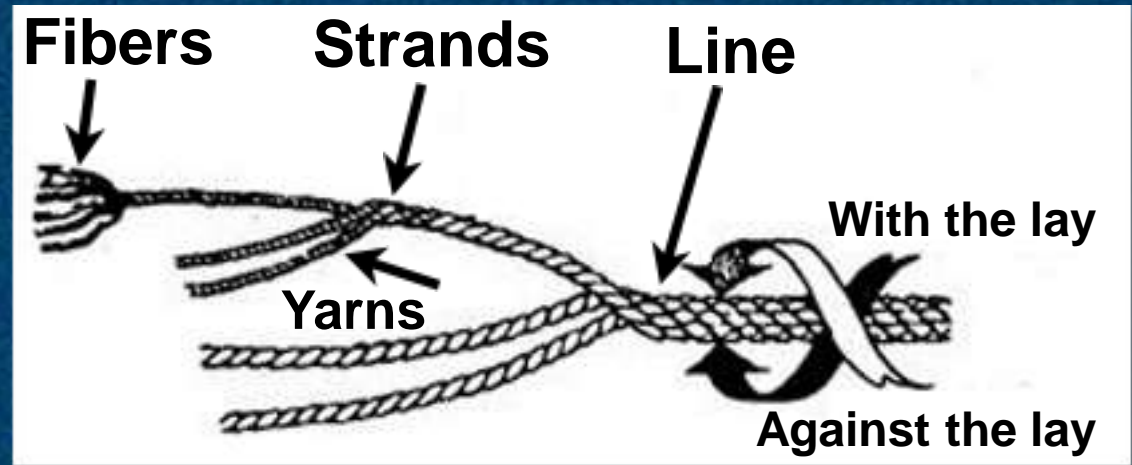
**The skills and
knowledge about
the use and care
of fiber line used
at sea**



Rope — A strong, thick line or cord, commonly composed of twisted or braided strands of hemp, flax, or the like, or of wire or other material

Line — Fiber rope that has been uncoiled and cut for use

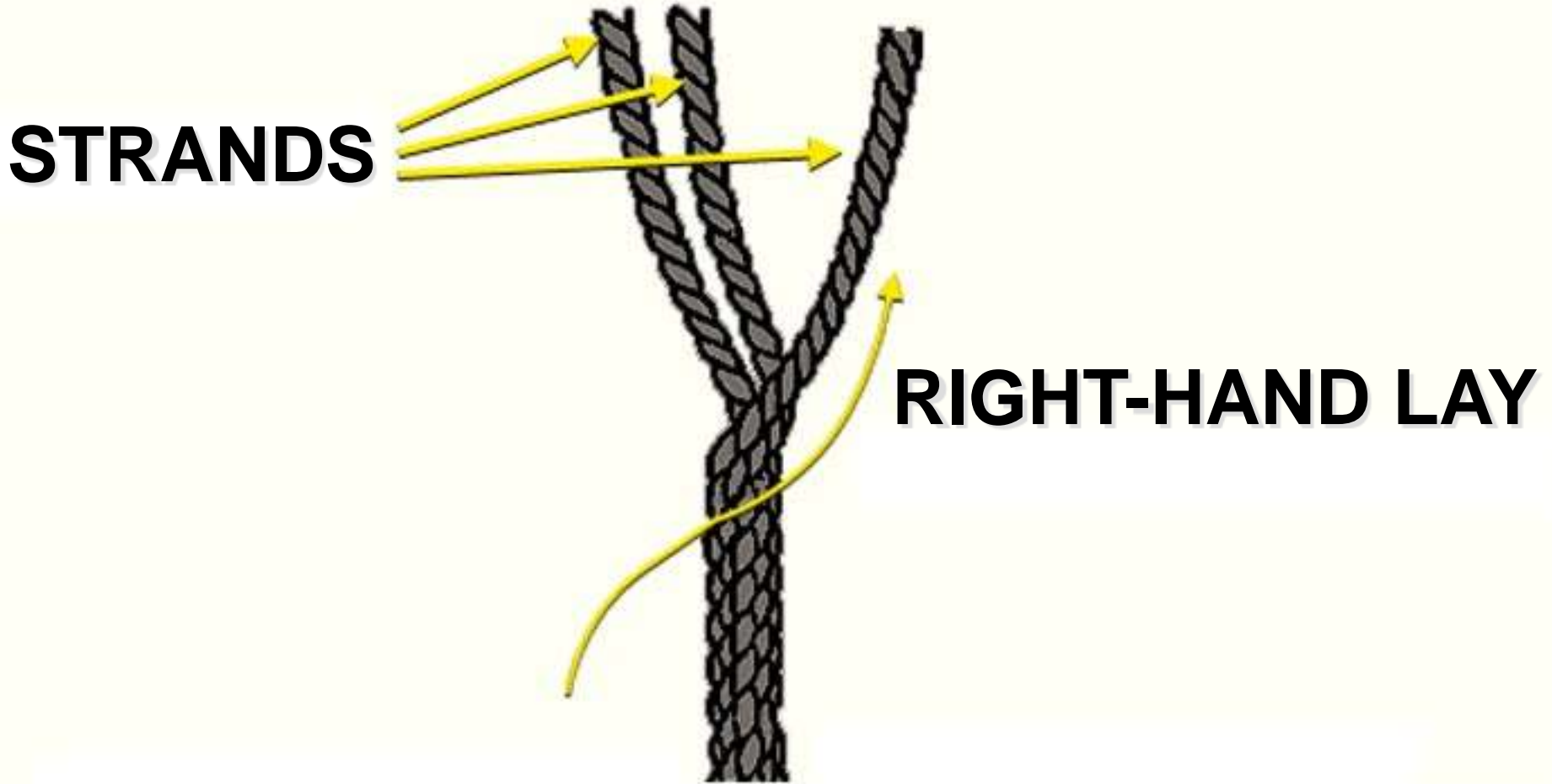
3-Strand Fiber Line



Fibers are twisted from left to right to form the yarn.

Yarns are twisted from right to left to form the strand.

Strands are then twisted from left to right to form the line.



**Most line used on board ship is
THREE-STRAND, PLAIN-LAID line
with a RIGHT-HAND twist or lay.**



RIGHT-LAID line must always be coiled
Down **RIGHT-HANDED** or **CLOCKWISE**.

Clockwise

In the direction of the rotation of the hands of a clock as viewed from the front or above; circularly to the right from a point taken as the top

BRAIDED INNER ROPE

BRAIDED OUTER ROPE



SINGLE-or DOUBLE-BRAIDED LINES

LINES made by braiding yarns rather than twisting them



Braided Line

- Used for hoisting signal flags (**halyards**)
- Will not unlay or twist

Halyard

Any of various lines or tackles for hoisting a spar, sail, flag, etc., into position for use



LENGTH - Measured in fathoms (1 fathom = 6 feet)



SIZE - Measured in circumference

Circumference

The outer boundary, especially of a circular area; perimeter



Hawser is the name given to any rope in the Navy larger than 5 inches in circumference.

Small Stuff

Line 1³/₄ inches or less in circumference and identified by the number of threads in the line





Three types of small stuff:

- Marline
- Seizing stuff
- Small white line

Methods for laying down a fiber line:

- **Coiling**
- **Faking**
- **Flemishing**



COILING DOWN A LINE



FAKING DOWN A LINE



A FLEMISHED LINE

Stowage and Care of Fiber Rope

- **Most ropes and lines are stowed in the boatswain's locker.**
- **Coils of rope are stored uncovered on shelves or platforms clear of the deck to stay dry.**
- **Small stuff is stored on a shelf in order of size.**



Whipping Lines

Always whip the bitter end of line to prevent it from unlaying or fraying.

**BIND THE END WITH
A COUPLE OF TURNS**



View A

**LAY THE OTHER
END ON**



View B

**BIND IT WITH
THE BIGHT**



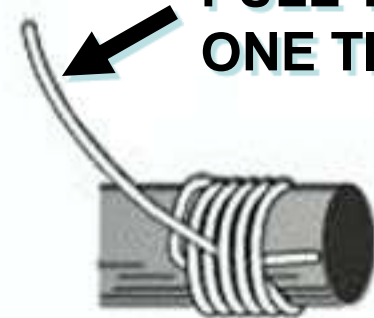
View C

A COUPLE MORE TURNS



View D

**PULL THIS
ONE TIGHT**



View E

Securing the End of a Nylon Line

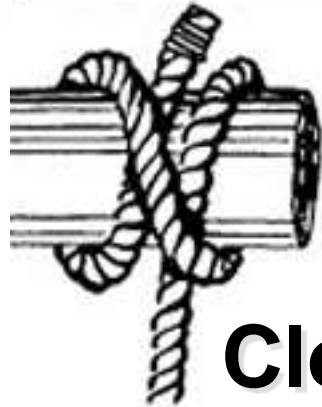


The bitter end is usually secured by taping each strand, then taping the strands together and fusing the end of the line with a hot iron or torch.



A good rule to remember with any line is that all loose ends must be cut or tucked.

Square



**Clove
Hitch**



Overhand

Knots

**They form “eyes”
or are used to
secure a cord or
line around an
object such as a
package.**

Hitches

Half Hitch



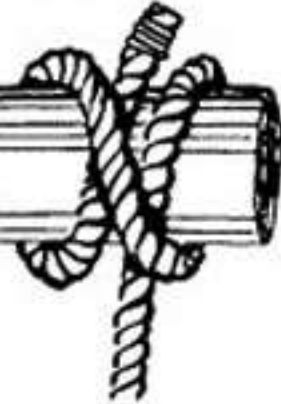
2 Half Hitches



Round Turn &
2 Half Hitches



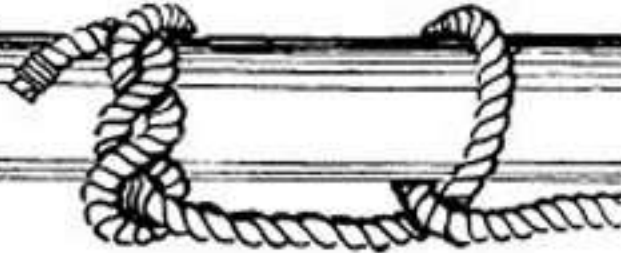
Clove
Hitch



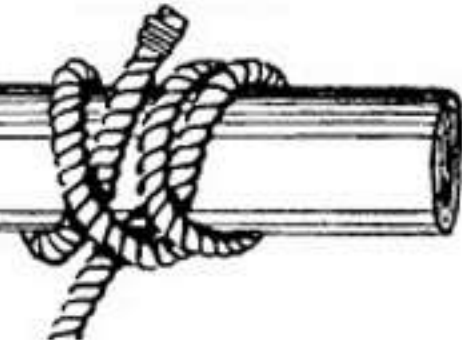
Timber
Hitch



Timber &
Half Hitch



Rolling
Hitch



Used to bend a line to or around an object or another piece of line or to form a loop or noose in a line

Bends

**Studdingsail
Tack Bend**



**Studdingsail
Halliard Bend**



**Fisherman's
Bend**



Carrick Bends

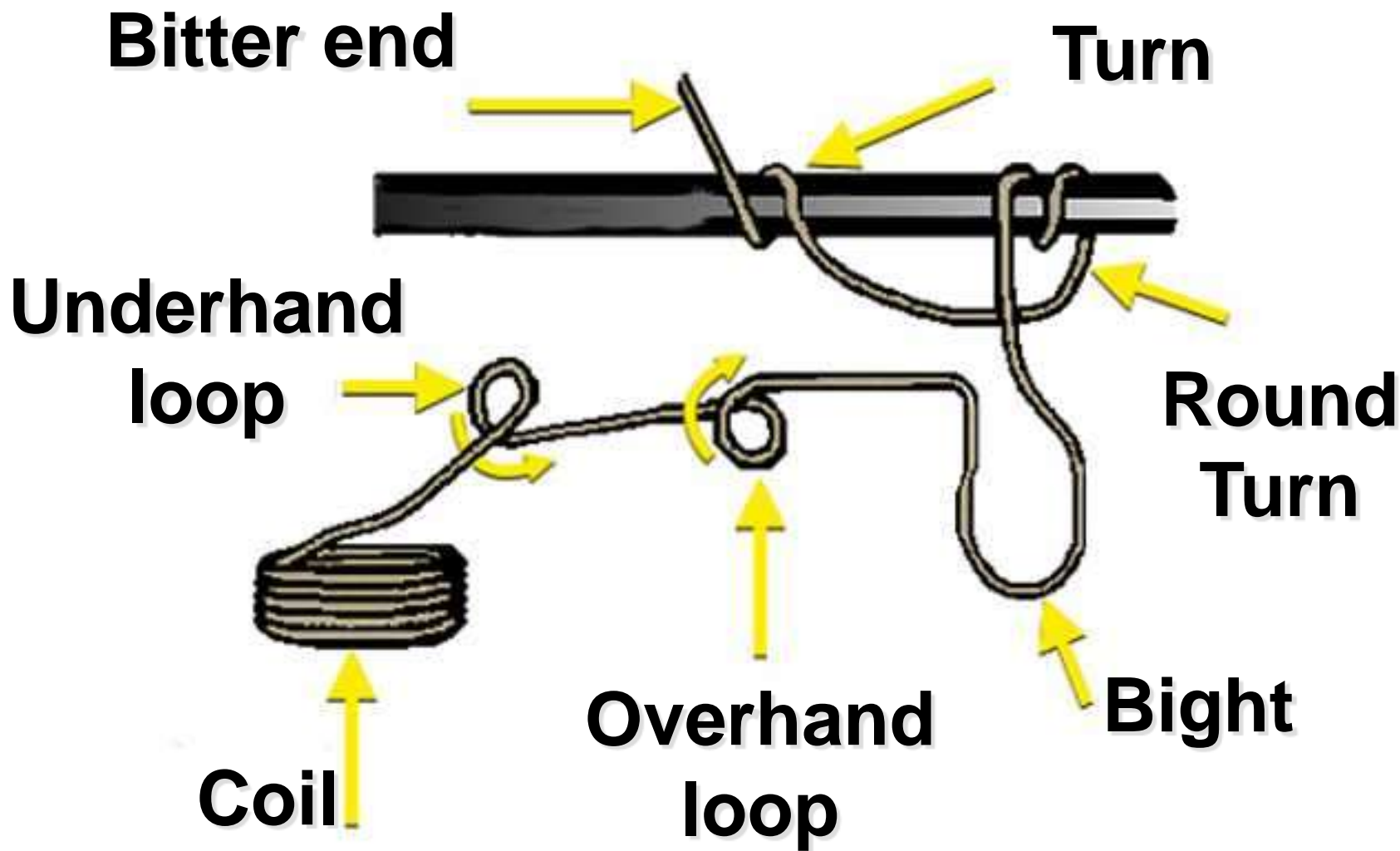
Single



Double



Used to secure lines together



Bight

**The loop or bent part of a rope,
as distinguished from the ends**



Guess what! Learning knot-tying procedures is FUN!



Square Knot

- **Also called a reef knot**
- **Best-known knot for bending two lines together**
- **Will not slip**
- **Can jam under heavy strain**

Square Knot

A common knot in which the ends come out alongside of the standing parts



**Granny
Knot**



**Square
Knot**

**A landlubber trying to tie a square knot
often comes out with a granny knot.**

Bowline

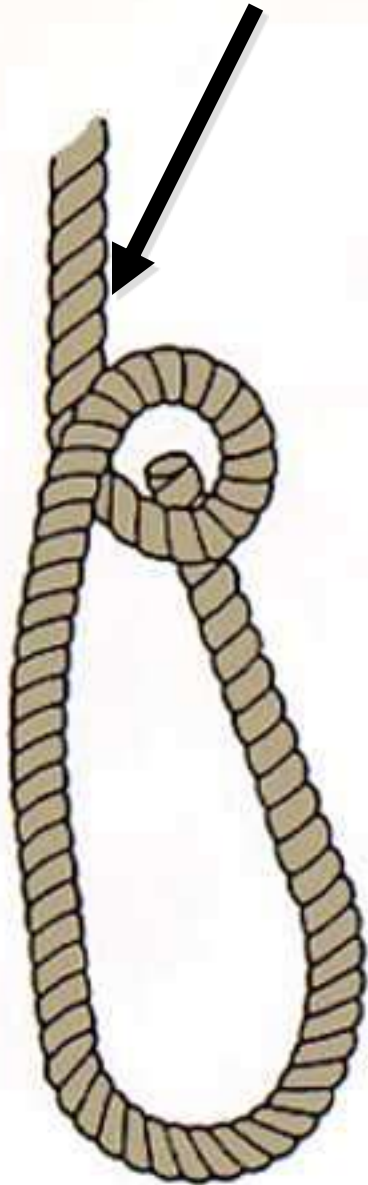
- Does not slip or jam
- Has many variations
- Can also secure a line to an object or bend two lines together
- Usually used to form an eye



Bowline

A knot used to make a non-slipping loop on the end of a rope

UNDER



**UP THROUGH AND
AROUND BACK**

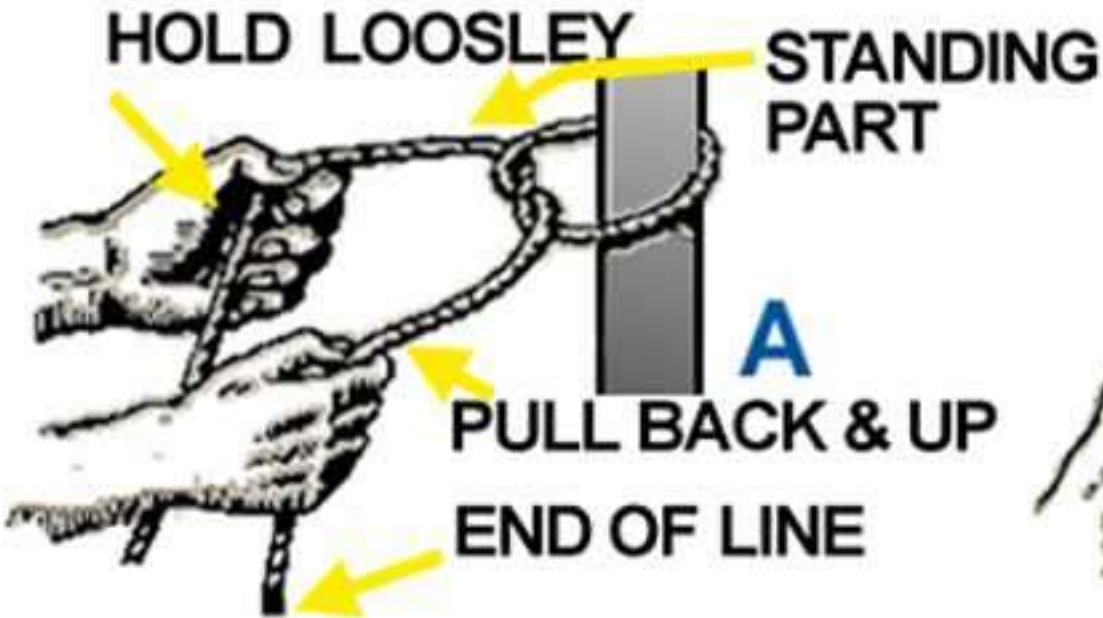


**BACK DOWN
THROUGH**



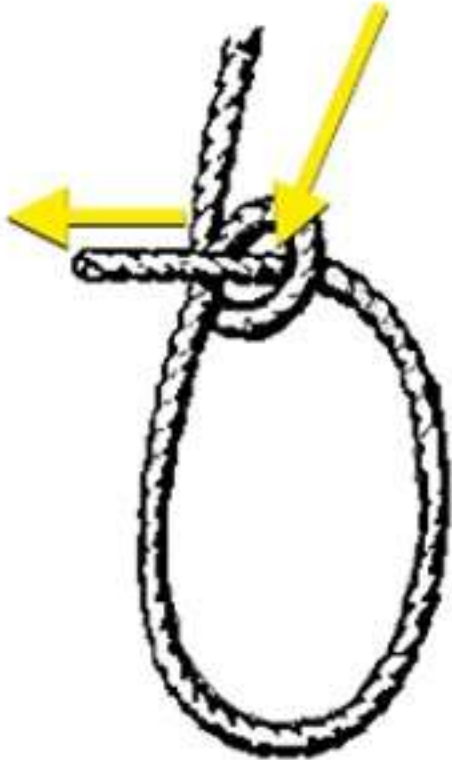
Memory aid: The rabbit comes out of his hole, looks around and goes around behind the tree and back down his hole.

Tying a Bowline to a Spar



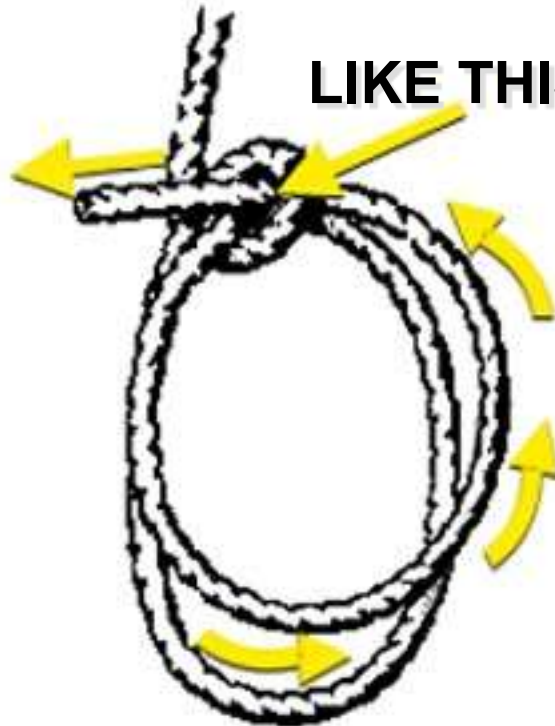
Tying a French Bowline

**GO THROUGH HERE
TWICE INSTEAD OF ONCE**

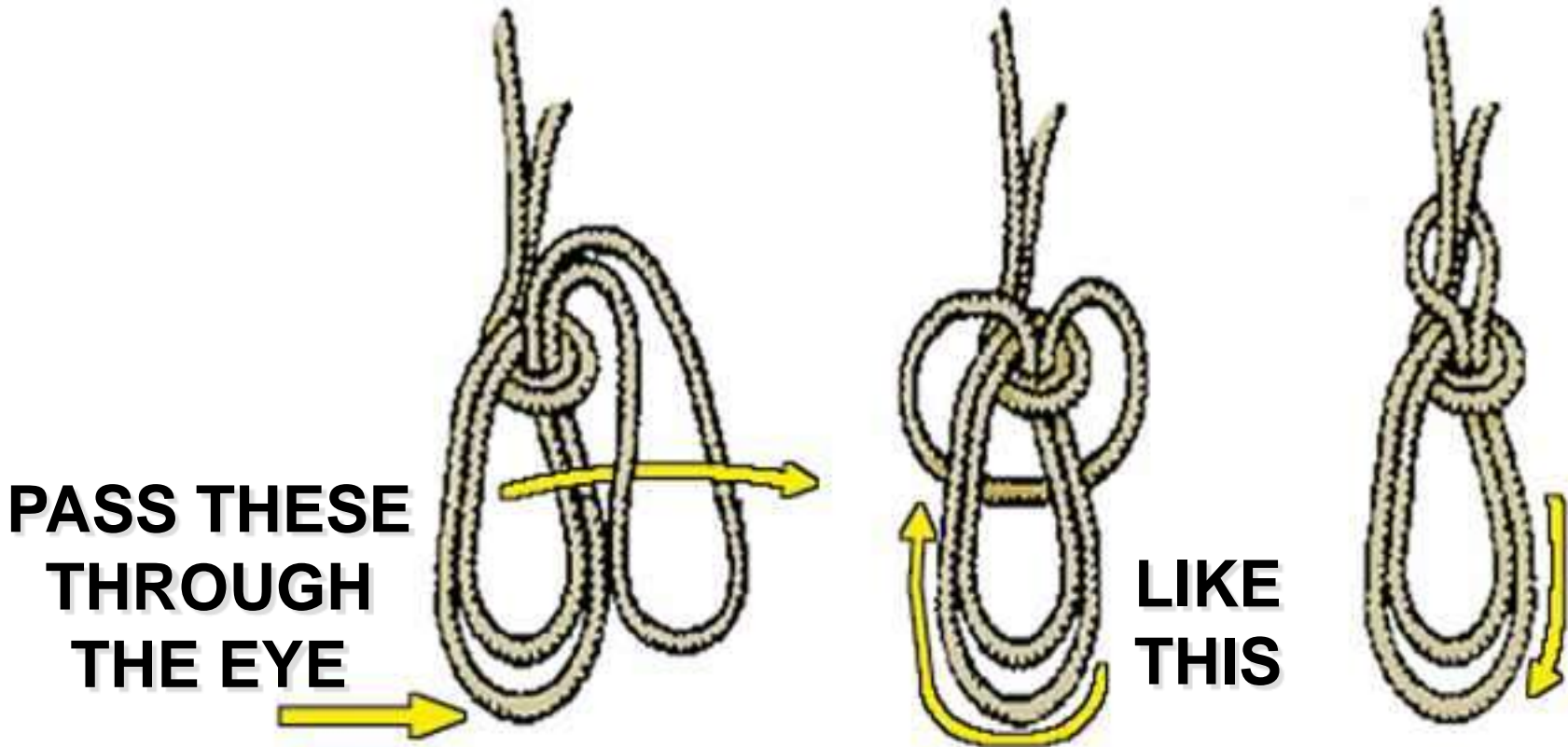


**THEN FINISH AS IN
A PLAIN BOWLINE**

LIKE THIS



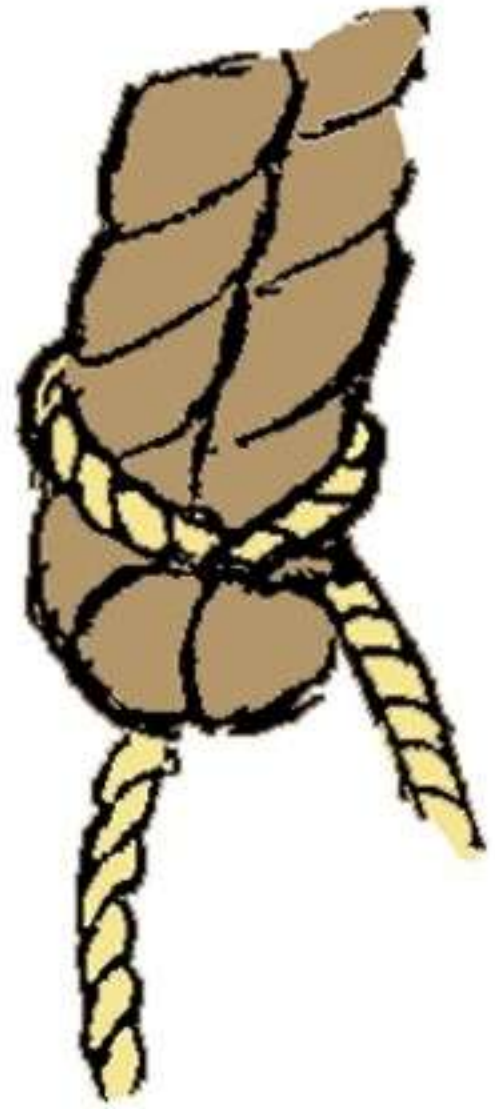
Bowline on a Bight

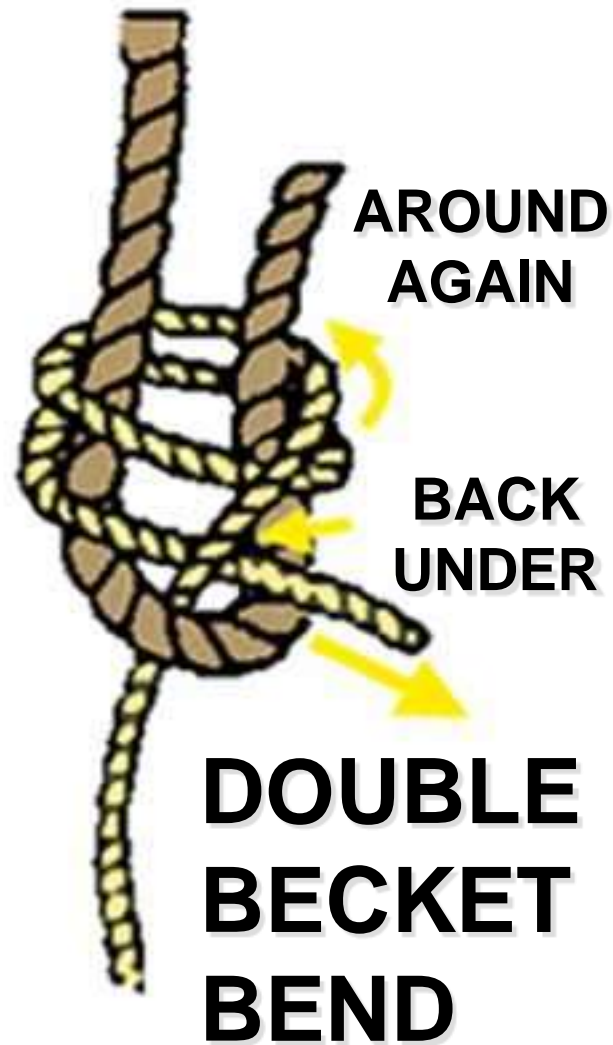


- Produces two loops
- Used to hoist a person

Becket Bend

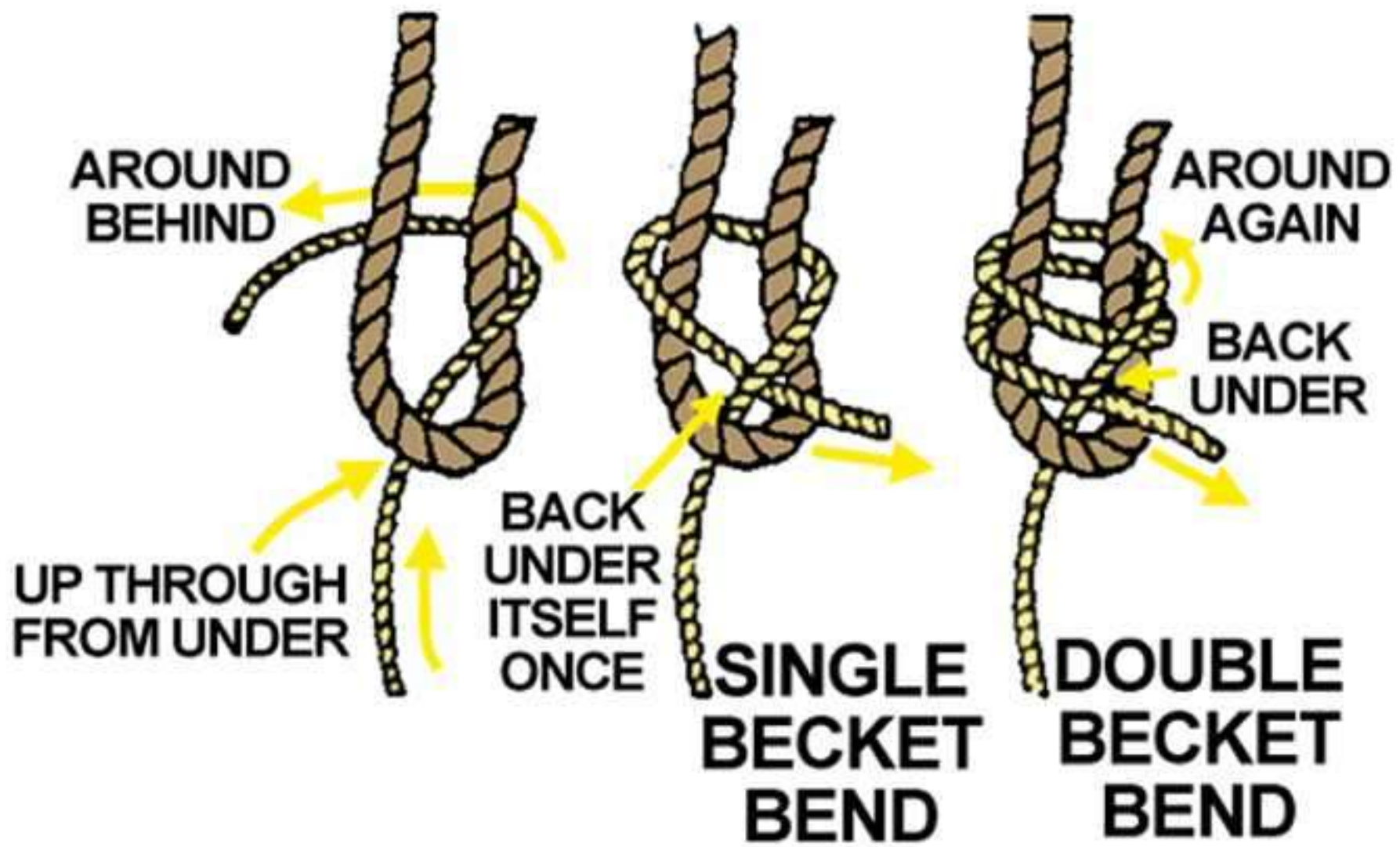
- **Used to bend together two lines of different sizes**
- **As good as a square knot and easier to untie after strain**





**If the strain on the line is to be great,
Use a DOUBLE BECKET BEND.**

Becket Bends



Clove Hitch



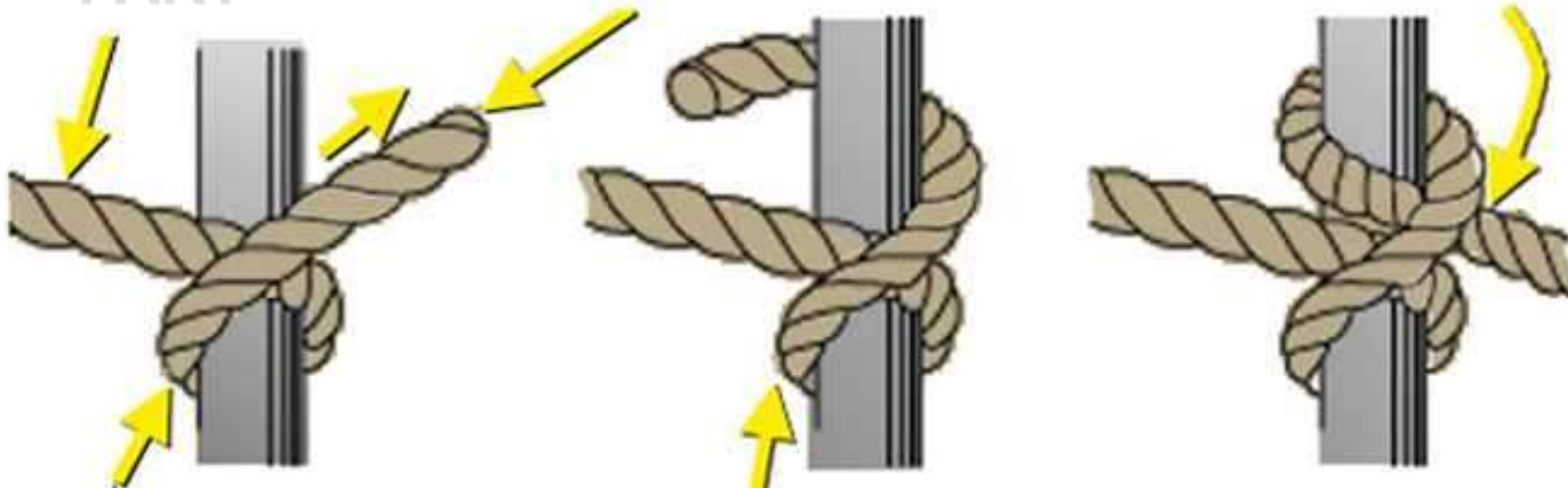
- **The best all-around knot for bending to a round object**
- **Will not jam and will rarely pull out**
- **Can be secured with a half hitch**

Tying a Clove Hitch

**STANDING
PART**

RUNNING PART

**UNDER
ITSELF**



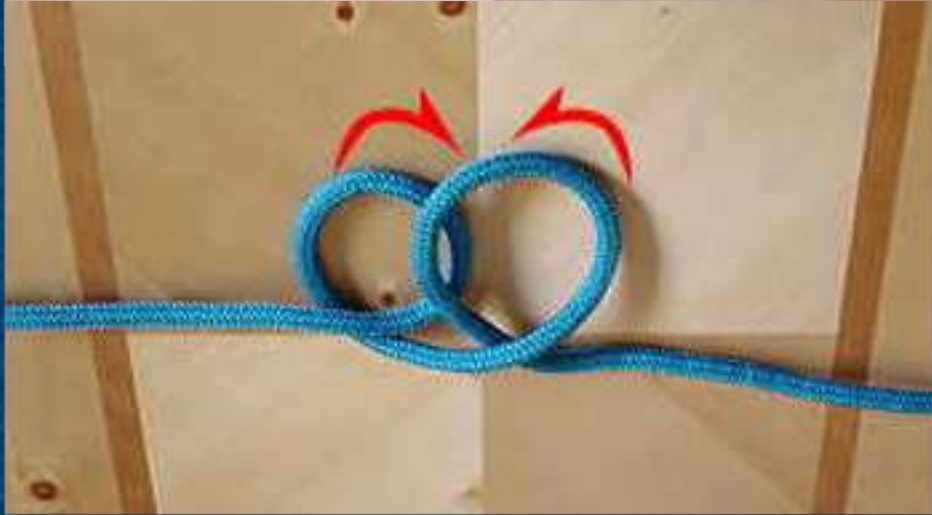
**AROUND
ONCE**

**OVER AND
AROUND AGAIN**

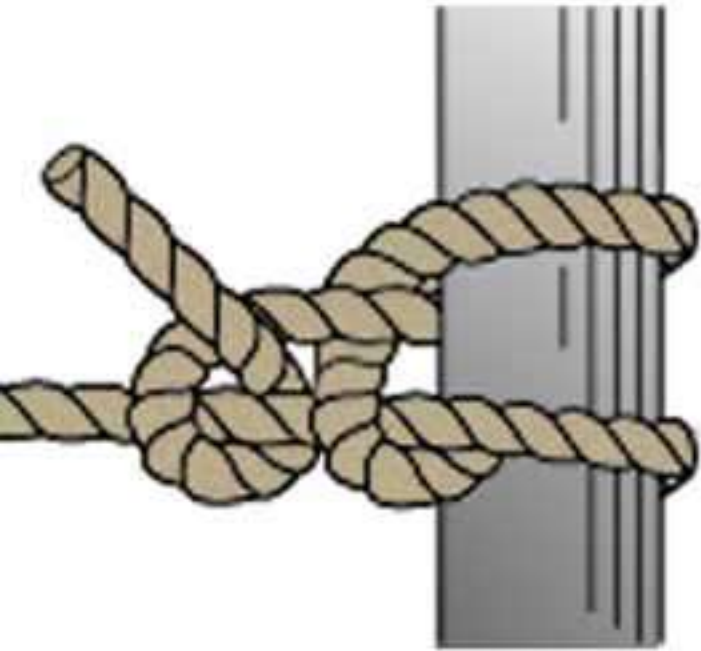


Form two underhand loops

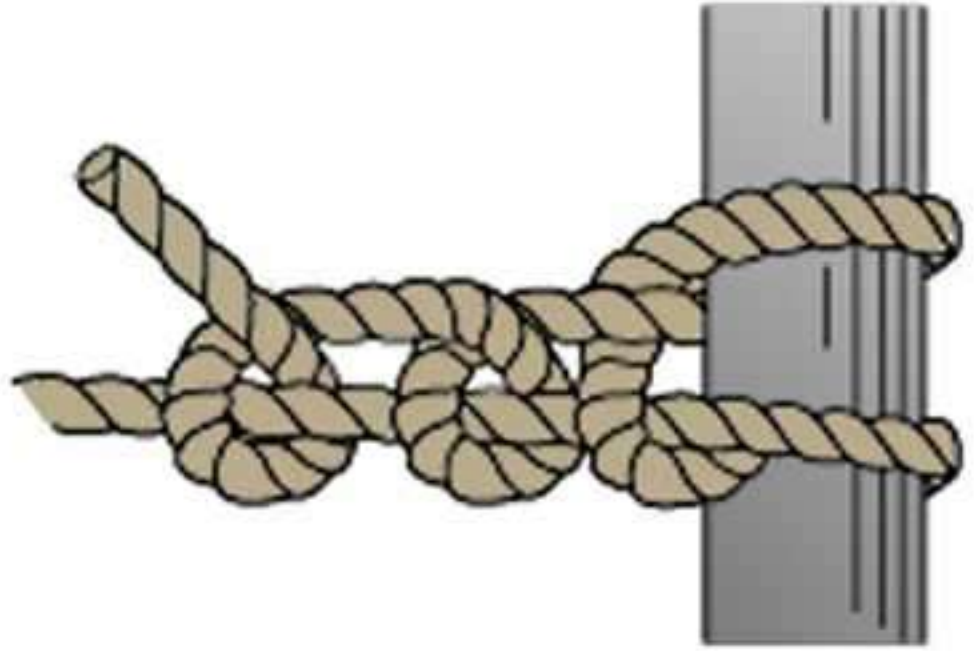
Lay the second loop on top of the first



Tying a clove hitch so you can slip it over an object

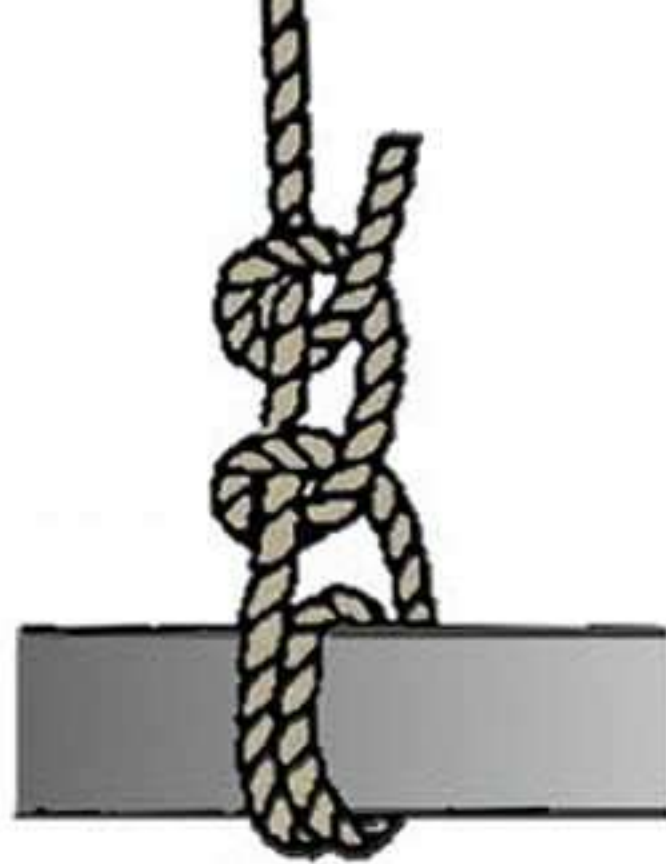


**CLOVE HITCH WITH
ONE HALF HITCH**



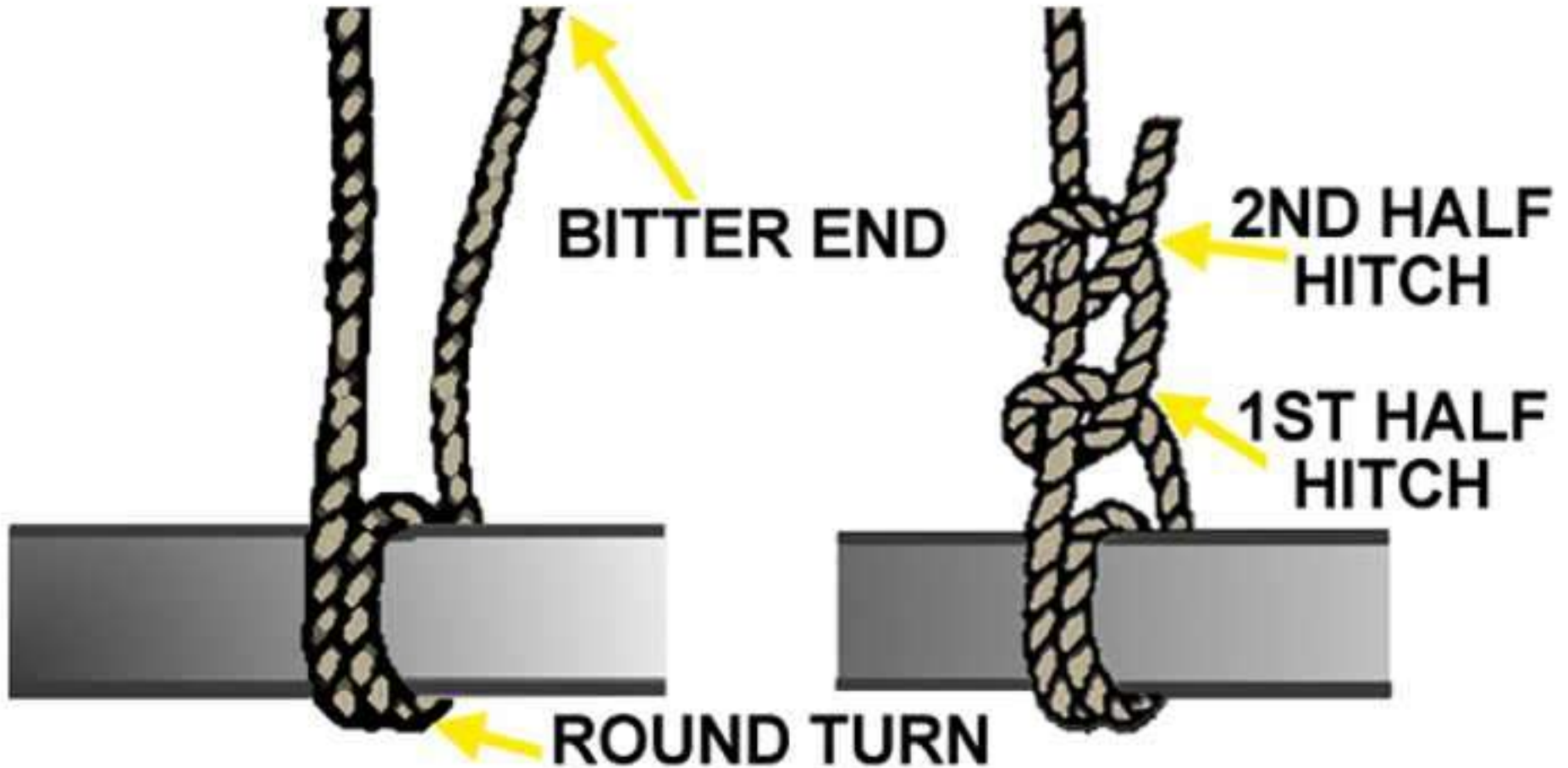
**CLOVE HITCH WITH
TWO HALF HITCH**

Round Turn with Two Half Hitches



- Will not slip around the object to which it is secured
- Used when angle of pull is acute
- Grips tightly and holds its position

Tying a Round Turn with Two Half Hitches



NEVER UNDERESTIMATE THE POWER OF THE SEA!



- **Use knots, bends, and hitches to secure equipment.**

When working with lines and wires,



REMEMBER—SAFETY FIRST!