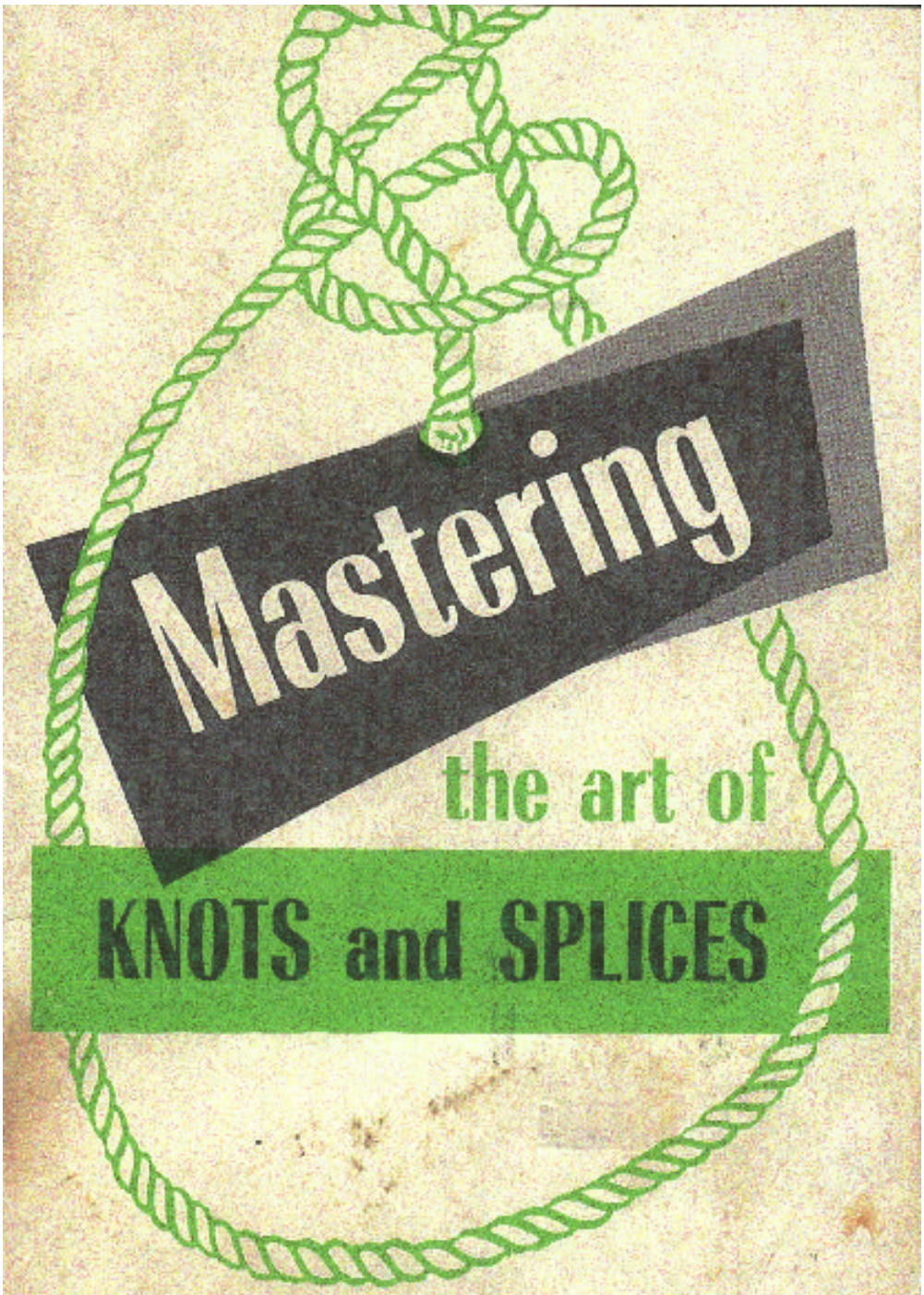

Mastering the art of KNOTS and SPLICES

Published by
NEW BEDFORD CORDAGE COMPANY
NEW BEDFORD, MASSACHUSETTS

FOREWORD

THE ability to tie knots of various kinds is an urgent necessity to many, but the fascination of mastering the art of knot making is fast causing this useful and interesting knowledge of handicraft to become widespread.

It is not possible within the limits of this booklet to give more than a general introduction to the subject, but a careful selection has been made of both simple and intricate designs to provide an outline which can be enlarged upon as desired.

The New Bedford Cordage Company will be pleased to furnish details upon request, with reference to any known type of knot which is not here described.

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ESTABLISHED 1842

General Offices and Mills: NEW BEDFORD, MASS.

Branch Offices

NEW YORK, N. Y.

BOSTON, MASS. CHICAGO, ILL.

There are many interesting and serviceable knots, a majority of which we believe are covered in this booklet. However, there are also some important "Nots" which, for your information and guidance we are including below.

DO NOT . . .

store rope in an overdamp place; it may mildew.

store rope in a very dry place; it will dry out and the fibers will become brittle.

allow rope to be used or stored near acid, acid fumes or storage batteries which continually give off acid fumes. The slightest trace of acid will ruin a rope.

pull rope from outside of a coil; it may kink. Pull it from the inside counter-clockwise.

drag rope over the ground, over a rough tree limb or other uneven surface; the fibers will surely be cut and the rope weakened.

allow a rope to be kinked.

remove a kink by pulling on the rope; unkink by twisting the rope around itself when not under strain. Massage the kinked place to bring it back to its original shape.

put a sharp bend in a rope if that can be avoided; the fibers will break or become weakened at the bend.

overstrain a rope. For long life and safety, rope should be used at strains of not more than one-fifth of the breaking strength.

subject a rope to sudden jerks. A sudden jerk is the same as overstrain.

expect a soft laid rope to wear as long as a hard laid rope with a hard wear-resisting surface.

expect a hard or medium laid rope to be as nice to handle and as flexible as a soft laid rope.

cut a rope without first tying whippings on either side of the place to be cut; otherwise the strands will unlay.

use a knot if a splice can be used. A splice is much stronger than a knot.

coil a rope in the wrong direction as it will kink. Most ropes coil best when put down clockwise.

expect a cheap rope to do the same work as New Bedford Manila.

Knots, Splices and Whippings

THE KNOTS, splices and whippings, illustrated and described in this booklet are a number of the more widely known and useful. The illustrations have been planned so that a minimum of description is required and it should be possible to make most of the knots by carefully following the illustrations. For clearness the knots are shown in their open state, that is, before they have been pulled taut and hence some knots will present a somewhat different appearance when pulled tight, than the drawings show.

There are many instances of a knot being known by more than one name, especially when used for different purposes. Where possible this has been noted. Many knots are made in slightly different ways by different classes of people using them. The illustrations in this book generally show the most universally accepted forms so far as it has been possible to determine them.

In learning to make these knots it is suggested that a length of say six feet of one-quarter inch manila rope be used, with the ends whipped as shown in Plate VII. The manila rope may be a little hard to handle at first, but as in actual practice manila rope will be the type most often encountered, it is just as well to become accustomed to its use.

When tying knots, it is customary to speak of different parts of the rope as follows: THE END is as the name implies, the very end of the rope. THE BIGHT is a loop or half loop formed by turning the rope back on itself. THE STANDING PART is the long unused portion of the rope.

Knots Illustrated on Plate 1

Overhand Knot. This with the

Figure of Eight or Flemish Knot is the simplest of all knots. Both are occasionally used to keep the end of a rope from fraying or as a "stopper knot" to keep a rope from pulling through a hole. They form a part of many other knots.

Overhand Knot joining two ropes is made in the same manner as the plain overhand except that two ropes are grasped at once when making the knot.

The Sailor's, or Square Knot is probably the most useful of all knots. It is strong, will not slip, easily tied, and easily untied by pushing the standing parts and ends toward the middle of the knot.

When an end of the Sailor's Knot is passed back through the adjacent bight it becomes a

Reef Knot. This knot is used extensively for reefing sails. Its virtue lies in the fact that it can be untied very quickly by jerking the end.

The Granny or Lubber's Knot is usually made by mistake when trying to make the sailor's knot. It is not a good knot, slips easily and should never be used.

The Thief Knot is identical with the Sailor's except that the standing parts of the two ropes are on opposite sides of the knot. Because of this it is liable to shift its position under strain.

The thief or bread knot supposedly derived its name in an interesting fashion. In galleys of the old sailing vessels, the cook, it is said, used to fasten the bread container by means of a sailor's knot. In the cook's absence the cabin boy would slip into the galley to steal food and on leaving, instead of tying a true sailor's knot, invariably tied the modification now known as "thief" The cook on seeing his bread box fastened with an improper knot always knew whom to blame, much to the cabin boy's surprise.

The Weaver's Knot is used in tying ends of threads when weaving. Its advantage lies in its lack of bulk when pulled taut. This knot when used under different conditions becomes a Sheet Bend which is illustrated in Plate 3.

The Fisherman's Knot is a sure way of tying two lines together. It will not slip under strain, yet is easily untied. It is much used for piecing gut leaders.

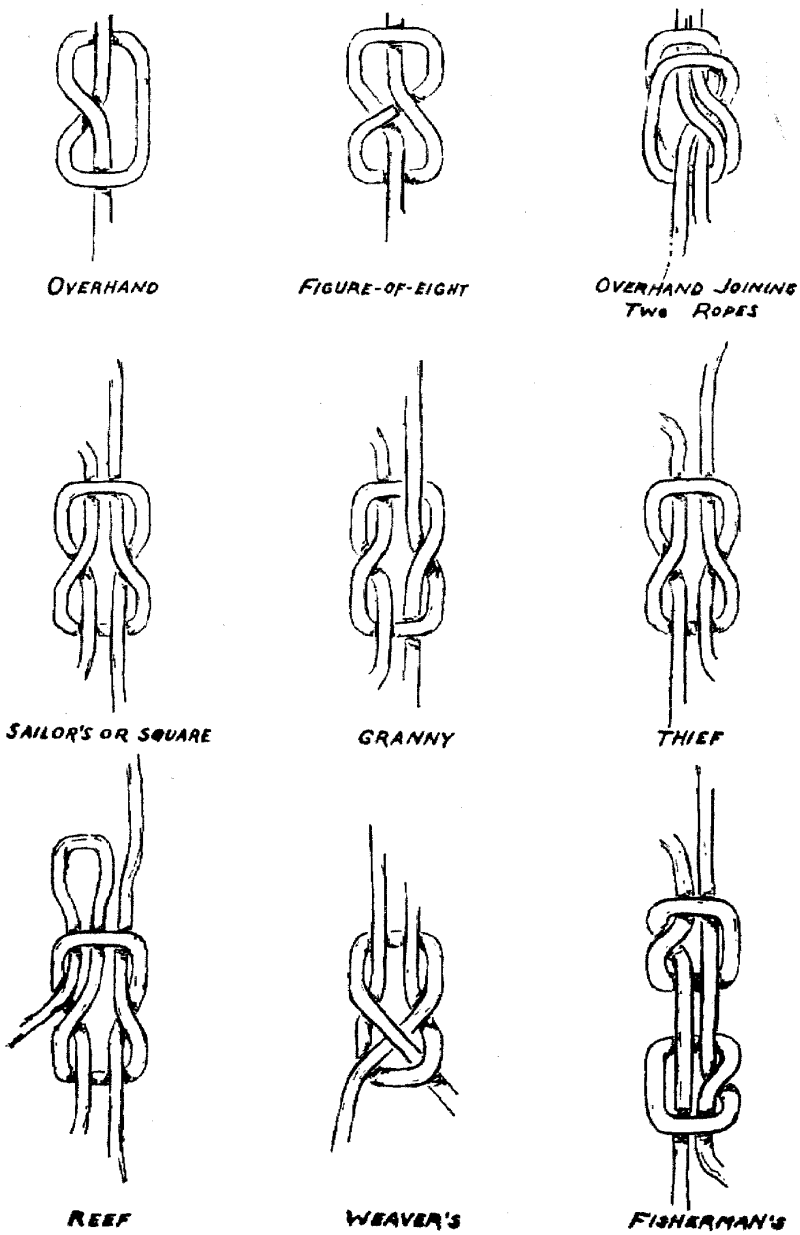


Plate No. 1

Knots Illustrated on Plate 2

The Carrick Bend is a useful as well as an extremely ornamental knot. Its main use, especially the double modification, is for joining large hawsers. It is good for piecing large ropes as when pulled taut no part of the knot contains a sharp bend, which if present, would injure the rope.

The Gunner's Knot it will be seen is nothing more than a carrick bend made with the two ends of one piece of rope.

The Running Knot is perhaps the simplest of the eye knots. This is also called a—

Slip Knot (same as above).

The Fisherman's Eye Knot it will be seen bears a strong resemblance, quite naturally, to the fisherman's knot for joining two ropes. It is a good knot of the eye type, and very strong under strain.

The Bowline is probably the best known and most useful of the eye knots. It is easily made by forming a bight in the rope and passing the end up through the bight, under the standing part and down through the bight again. The illustration of this knot shows the end as appearing on the outside of the loop. This is probably the best form as in this position the end will not interfere with anything held by the loop. However, illustrations generally show the end as inside the loop and the knot is correct when made either way. For a quick method of tieing the bowline see page 19.

The Crabber's Knot is another type of loop knot, not so very well known. Its virtue lies in the fact that once made correctly, it very seldom slips.

The Running Bowline is merely a bowline, the large loop of which is made around the standing part of the rope, forming in effect, a slipping noose similar to that used on a lariat. This is not illustrated but can easily be made from the description.

The Bowline on a bight is a method of making a loop in a rope, both ends of which are fastened. Double up the center of a rope and form a double bight (A). Pass the very end of the loop (B) up through this bight. Draw this

loop back down over the large loop (C) until it finally reaches the position shown in the illustration.

The Spanish Bowline is a method of forming two loops in a rope, neither of which will slip.

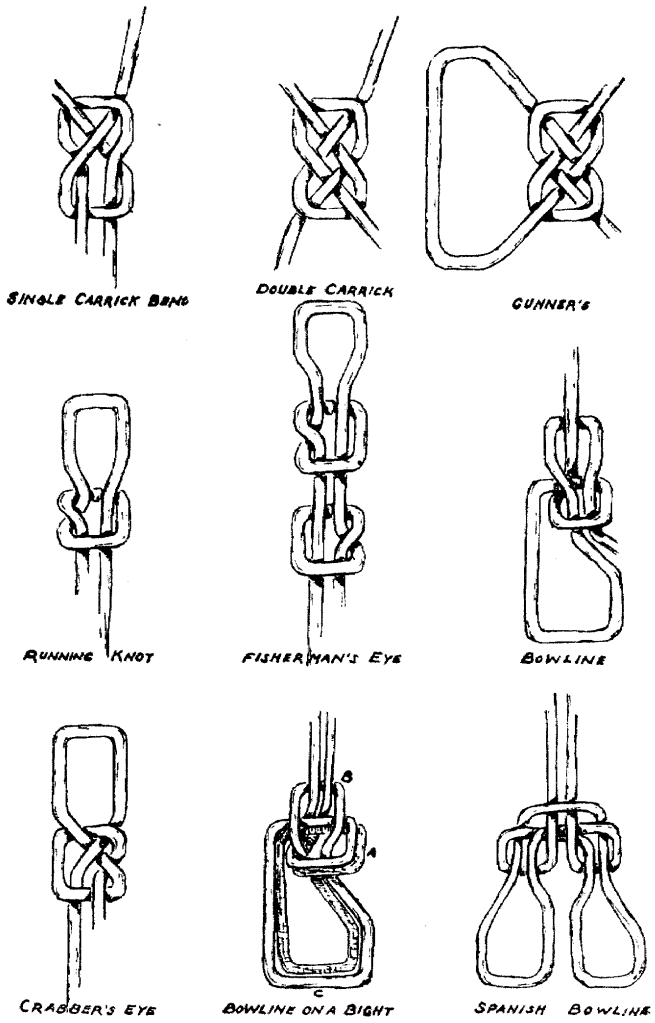


Plate No. 2

Knots Illustrated on Plate 3

Two Half Hitches is a simple but effective method of fastening a rope end to anything having a free end over which a rope loop can be thrown, such as a low post or a hook. The tighter the pull on the rope, the faster the rope becomes. In the illustration the space marked (A) goes over the post or hook.

When this type of fastening is made around an object by passing the end of the rope around it, it becomes a—

Clove Hitch (same as above).

For a quick method of making the clove hitch see page 19.

The Magnus Hitch is another method of fastening a rope to a post or similar object. Its virtue is that it seldom slips sideways along the post.

The Timber Hitch is used where a quick fastening is desired, as in hauling timber. It is a better hitch than might be supposed by looking at it.

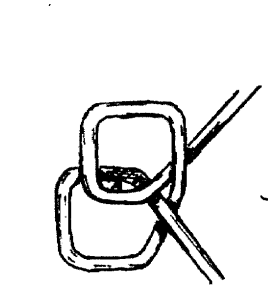
The Killick Hitch is of this same class but more secure.

The Fisherman's Bend as its name implies is used by fishermen while the—

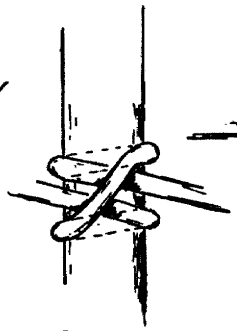
Topsail Halliard Bend is used on yachts for fastening a rope to a spar.

The Sheet Bend is used for fastening the "sheet," which is the small rope in the illustration, to the clew of the sail, which is the larger rope shown. This knot it will be seen is of exactly the same construction as the WEAVER'S KNOT.

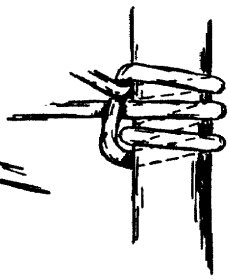
The Double Sheet Bend is a more secure method of accomplishing the same purpose.



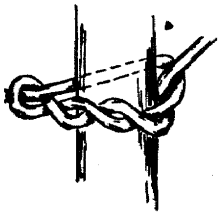
TWO HALF HITCHES



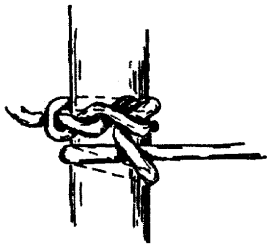
CLOVE HITCH



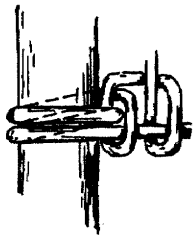
MAGNUS HITCH



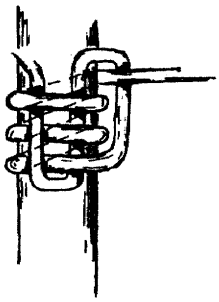
TIMBER HITCH



KILLICK HITCH



FISHERMAN'S BEND



TOPSAIL HALLIARD BEND

SHEET BEND

DOUBLE SHEET BEND

Plate No. 3

Knots Illustrated on Plate 4

The Slippery Hitch is a quickly made and undone method of fastening a rope to a peg. The rope will remain fast so long as it is taut.

The Midshipman's Hitch can easily be made by following the illustration.

The Blackwall Hitch is a quick and secure method of attaching a rope to a hook, provided the rope will be constantly taut when in use.

The Cat's Paw which is also called by various other names is made by forming two bights in a rope, one with either hand. The bights are then twisted on themselves and may be slipped over a hook or other object. It is quite secure.

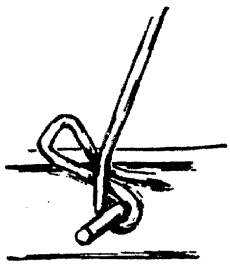
The Marlinspike Hitch is used whenever it is desired to pass a stick through a rope. Its name comes from the fact that it was originally and still is, used with a marlinspike to get a better grip on a piece of rope. If a board is passed through the loop instead of a marlinspike, this hitch becomes useful as a method for—

Slinging a Stageing

The Slippery Ring Knot is a quickly made and unmade knot for tying a rope to a ring.

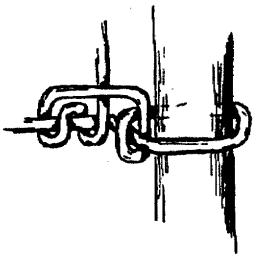
The Lark's Head and—

Double Lark's Head are more secure and ornamental knots used for the same purpose.



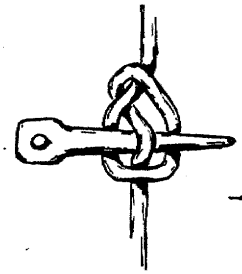
SLIPPERY HITCH

BLACKWALL HITCH

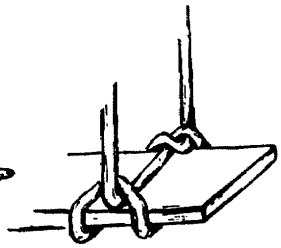


MIDSHIPMAN'S HITCH

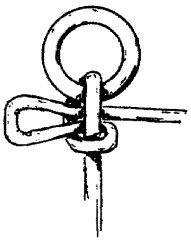
CATS PAW



MARLINSPIKE HITCH



STAGEING SECURED WITH MARLINSPIKE HITCH



SLIPPERY RING KNOT

LARK'S HEAD

DOUBLE LARK'S HEAD

Plate No. 4

Knots Illustrated on Plate 5

It is very often desirable to temporarily shorten a piece of rope without cutting it. The next six knots described are all for this purpose.

The Chain Knot, besides being a good method of shortening is ornamental as well. This knot, when made on a leather thong, silk braided cord, or other material which gives a pleasing appearance, can be used as a watch fob. To start the knot, make an ordinary figure-of-eight knot near one end of the rope. A loop made from the standing part of the rope is then pulled through the figure-of-eight knot. This procedure is continued until the chain is as long as desired, or the rope is as short as desired. In the first illustration, the first loop has been pulled through the figure-of-eight and the fingers are grasping the standing part preparatory to pulling it through the second loop.

A finished chain of three loops is shown in the next illustration.

There are many forms of—

Sheepshanks. The first type illustrated is the most universally used for shortening ropes. The shortening will remain secure as long as there is a strain on the rope. It is much used for taking up tent guy ropes.

The Knotted Sheepshanks has a number of forms, one of which is illustrated. Its advantage lies in the fact that it will not undo itself if the rope is slackened.

The Toggled Sheepshanks has the same virtues as the knotted and in addition can be made when both ends of the rope are fast. The toggle is made by simply forming a marlinspike hitch on each end of the plain sheepshanks.

The Sheepshanks with Reef is rather more secure than the ordinary variety and in addition is quite ornamental. Although it looks complicated it is easily formed by making a series of loops in the rope in the manner shown, grasping the proper loops and pulling these until the knot forms itself.

The Bell Ringer's Knot is useful when it is desired to raise up out of the way a hanging rope end such as a gymnasium climbing rope. A slight tug on the end brings the rope down ready for use. This knot derives its name

from its original use, which was the catching up of church and other bell ropes.

The Hangman's Knot can easily be tied by following the illustration. It is made with a varying number of turns but those who remember when it was in more general use say that the correct number is seven, one for every day in the week. In use, the noose is adjusted to fit snugly, with the knot itself resting against the vein behind the ear.

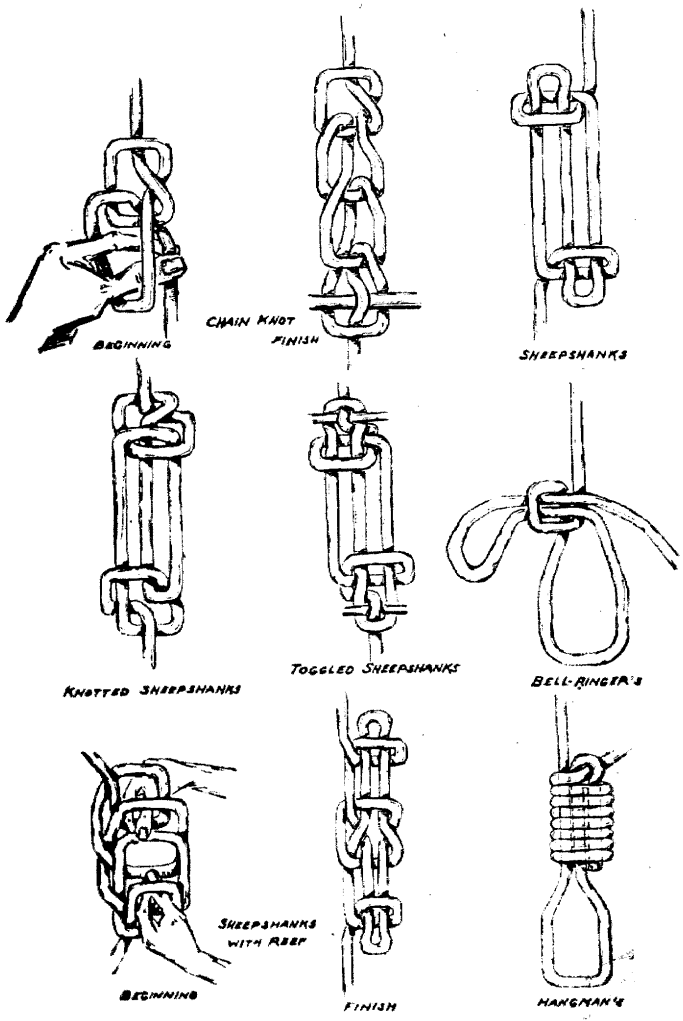


Plate No. 5

Knots Illustrated on Plate 6

The Tomfool Knot, or Single Pitcher Knot, as when a pitcher or jug neck is inserted in the center of the knot at (A) the two loops form convenient handles. The heavier the jug, the more securely fastened the handles become. The knot is also useful for carrying, sling fashion, heavy round or square objects such as large rocks. For this purpose the center of the knot is left rather open, acting as a cradle to support the object. The loops act as handles.

For a quick method of tieing this knot and its use as a trick see page 19.

The Jury Masthead Knot is of a similar type to the one just described, but somewhat more complex. To make the knot, form loops in the manner shown, grasp the proper two of these with the thumb and forefinger of each hand and grasp the loop marked (A) with the teeth. On pulling the three loops simultaneously the knot will form itself. The two ends are then whipped together as in the illustration of the finished knot. The knot is used at the head of a temporary mast as a fastening for guy ropes to hold the mast in place. The center (B) is placed over the masthead and the guy ropes are fastened to the four loops. The more tightly the guys pull, the tighter the knot grips the mast. The same knot is also known as

The Jar Sling or Knot, or Double Pitcher Knot. When used for carrying a jar or jug, the neck of the jar is placed in the center of the knot (B) and the four loops act as handles.

The Turkshead is an extremely ornamental knot. Fig. (1) of this knot shows a skeletonized form for making the flat variety. The knot may be made by several different methods but probably the simplest method for the beginner is to place the rope on a flat surface, weaving it back and forth in the contours shown. After the skeleton has been completed the rope is made to follow itself around until three strands appear side by side. The finished flat form of the knot should appear as in Fig. (2). Fig. (3) shows the same type of knot made around a post or mast. In this latter form it is useful for holding together a partly broken or splintered mast or post as the knot covers considerable area and can be drawn very tightly.

The Wall Knot and—The Crown are used for fastening rope ends so they will not unstrand and can easily be made by following the illustrations. There are various combinations of these two knots. For instance, a wall can be made with a crown following, a double wall with a single crown, etc. The double wall or double crown is made by merely having each strand follow itself through twice.

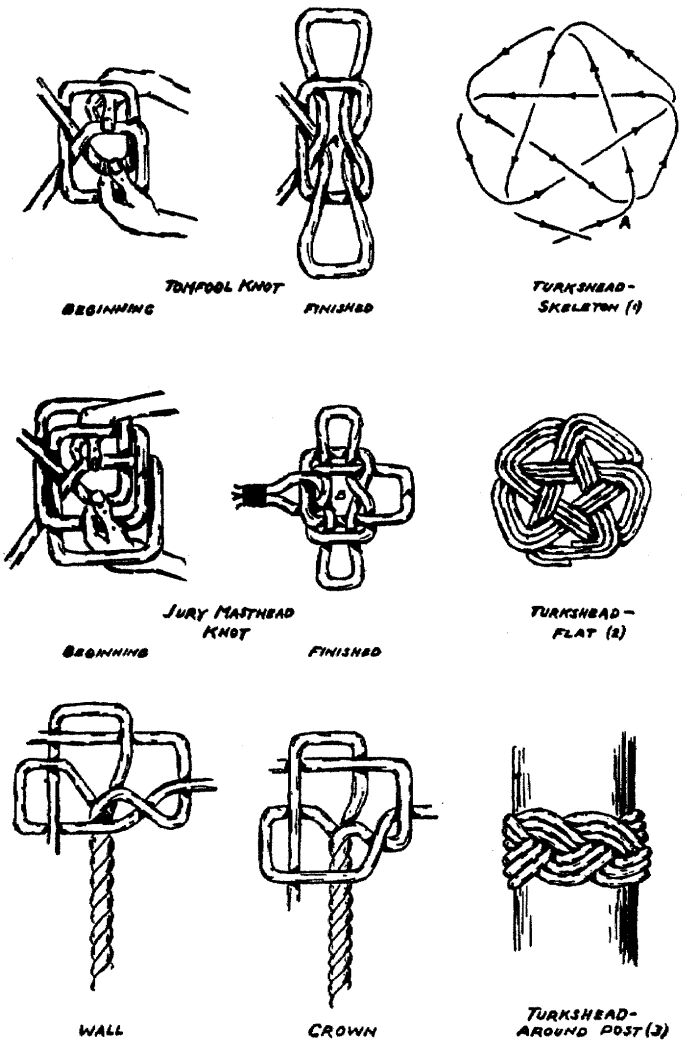


Plate No. 6

Knots Illustrated on Plate 7

The Manrope Knot is one of the wall and crown combinations. A single crown is first made on the rope. A wall knot is then made underneath this, around the rope's standing part. The illustration shows the crown already made and pulled taut, with the wall made and in position, but not pulled taut.

The Matthew Walker Knot is of the same general type as the foregoing but of somewhat more complicated construction, and **The Stevedore Knot** is a very simple and effective method of finishing off a rope end.

It is very often desirable to fasten two rope ends together in a neater manner than can be accomplished by the use of knots. For this purpose, various methods of "splicing" are useful. A second advantage of this type of joining is the fact that a well made splice very nearly approaches the strength of the rope itself whereas even the best knots do not. The simplest and most useful splice is the—

Short Splice. Unlay for a sufficient distance, the strands of the two rope ends to be spliced. Then inter-twine the strands as shown in the first illustration. Next place the two ends together so that part (A) comes up very snugly against part (B). Fasten the ends temporarily in this position by passing a rope yarn or string securely around the outside of the joining. The actual splicing is now ready to begin. This is accomplished by passing or "tucking" one strand over and under its companions in the opposing rope end. In the illustration this has just been done with the strand marked (C). After this has been done with all six strands one round of "tucks" has been made. A short splice to hold well is usually composed of three or more rounds of "tucks".

The Long Splice is useful when it is necessary to have a joining less bulky than the foregoing. To make this splice, unlay the two rope ends for quite a distance, and put the ends together in the same manner as in the short splice but do not tie them. Now unlay one of the strands still further and follow the space left between the remaining two, with a strand from the other rope end. This strand should be twisted into the space so that after the twisting has been accomplished the rope appears as it did originally,

but instead of consisting of three strands from the same rope, it now is made up of two strands from one rope and one from the other rope. Do this same thing twice more with the other four strands, unlaying one and following the space made with the opposing strand from the other rope end. The rope should now appear as in the illustra-

(Continued on following page)

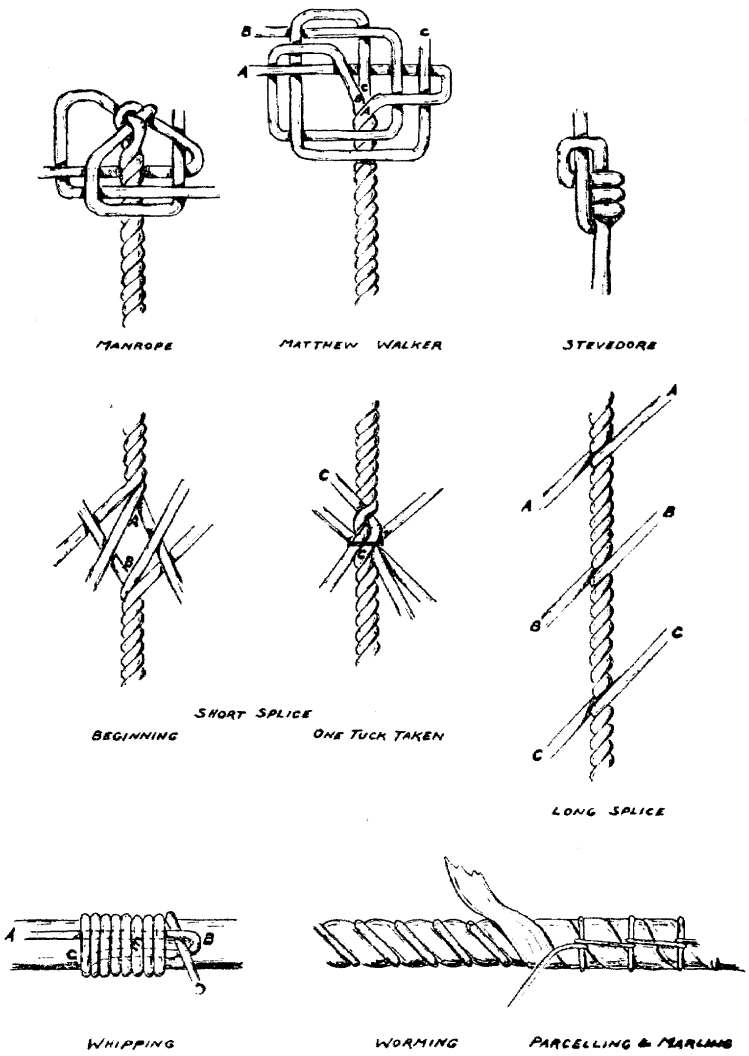


Plate No. 7

tion. Make overhand knots with each set of strand ends A-A, B-B, C-C. Next part the ends of each strand tucking one-half under and over the adjacent strands on one side of the knot and the remainder under and over the adjacent strands on the other side of the knot.

Small ropes can be spliced by opening the strands with the fingers. For the larger ropes it is useful to have a marlinspike or other pointed stick.

Whipping. To prevent a rope from unlaying, the ends should be secured with some form of whipping. One of the commonest methods is as shown. Lay a loop (A-B-C) of small twine along the rope at the point to be whipped. Pass the twine tightly around and around the rope and the loop until the whipping is as long as desired. Next pass the end of twine (D) through the loop at (B). Pull end (A) until the loop (B) and end (D) have been drawn well under the body of twine, say until point (B) of the loop reaches the part marked (E). End (A) is then cut off close.

The next illustration shows methods of making a rope more smooth and covering it with protecting material.

Worming consists of laying between the rope strands small stuff so that the rope surface becomes more even.

Parcelling is merely the wrapping of a rope with strips of canvas or other similar material, while

Marling is a method of holding the parcelling in place. Marling can also be used to hold two or more ropes together side by side.

"Quickie" Knots, Eye Splice and Rope Spinning

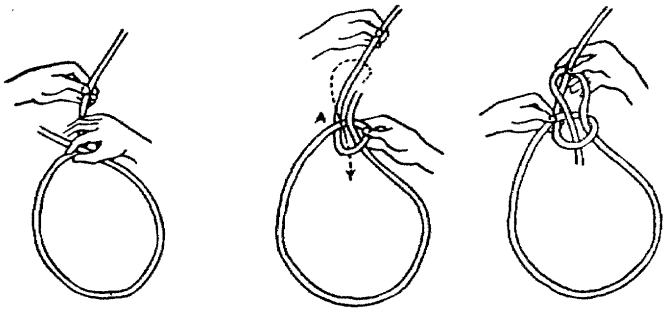
A knots interest or usefulness is determined very often by a particular manner of tieing it. For the most part the methods shown in this booklet have been selected as the easiest to learn but not necessarily as the quickest or most useful in practice.

In the following description the bowline, clove hitch and tomfool knot are picked as examples to illustrate this. In general, the more quickly a knot can be tied, the more useful it is.

To tie the **Bowline** quickly, grasp the rope as shown, in Plate No. 8, the loop being toward you. Now turn the right hand over and away from you, ending palm up similar to position 2. By this one handed motion you have formed a bight in the rope with the rope end sticking up through it. Grasp the bight at A between the thumb and fingers of the left hand. With your right hand run your rope end under the standing part, up over A, down through the loop and the knot is formed. Nothing remains but to pull it tight. The third illustration shows the position of the hands on completion of the forming of the knot. It will be noted that in these operations the left hand is used for support only. If the standing part of the rope is made taut by tieing it to an object, with a little practice you will find that you can tie this knot using your right hand only, which to the uninitiated is quite a feat.

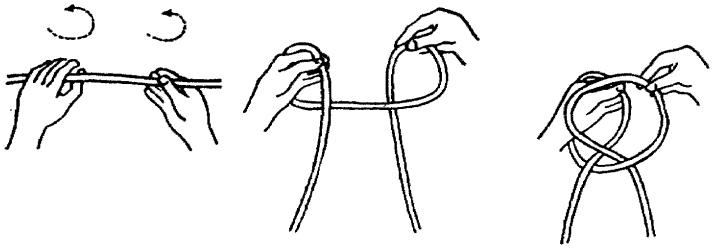
The quick way of tieing a **Clove Hitch** is most useful to know, and very simple. Grasp the rope as shown, left hand palm down, right hand palm up. Next, with rolling motions to the left, simultaneously bring the left hand palm up and the right hand palm down. Rope and hands will then appear as in the second illustration. Bring the two bights together so that the left hand and bight take a position farthest away from the body and outside the right. There is nothing further to do but slip your hitch over the post you want to make fast to and draw up taut.

From the last position of the clove hitch this can quickly be turned into the **Tomfool Knot.** Work your fingers around the rope so that they assume the positions in the illustration, draw the hands apart and you have the finished knot. This whole action from the beginning of the clove hitch



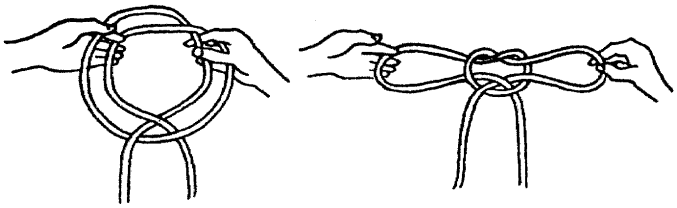
1 2 3

QUICK BOWLINE



1 2 3

QUICK CLOVE HITCH



1 2

TOM FOOL FROM CLOVE HITCH

Plate No. 8

form to the finished tomfool knot plus the untieing of it after completion can be accomplished literally in a fraction of a second. When tied and untied rapidly accompanied by extra flourishes of the hands plus suitable patter, it makes an excellent parlor trick. It looks extremely simple to the observer, yet few people are able to learn it unless shown slowly, step by step. Perhaps its name stems from the idea that it appears as if any fool could do it, yet in trying many are made fools of.

The Eye Splice is used for the same purpose as the eye and ring knots such as those described on pages 6 and 10 but is stronger, neater and many times more permanent. It is probably the most useful of the splices and is especially so to the small boat enthusiast who does his own rigging.

Unlay the end of the rope a distance of about fifteen times the diameter of the rope. Tie a whipping of small twine around the rope to prevent further unlaying. Place the unlaid strands on top of the rope itself as shown in Fig. 1, allowing as much room as desired for the "eye". Execute the "first tuck" as shown in Figs. 2, 3 and 4, Plate No. 9. If the rope is hard laid, or very large, so that the space between the strands cannot be opened with the fingers, a pointed hardwood stick should be used. This is know as a fid. The "second tuck" is executed in the same manner as the first. This is shown begun in Fig. 5. Usually three "tucks" in all are made. The third tuck is a repetition of the previous two. After each tuck has been completed pull all three strands firmly into position so that the splice sets up nicely and is not loose.

Spinning a Lariat is one of the accomplishments at which many of us interested in the use of ropes would like to become proficient, yet to most it appears difficult of accomplishment. Like many things, there is a trick to it and when this is fully explained it becomes quite easy.

For your lariat take a piece of ¼ or 5/16 inch rope 10 or 11 feet long, or if you are less than average height, shorten accordingly. Tie a running knot in its end. This is your honda. There is a special honda knot but the running or slip knot is adjustable and therefore more suitable for amateur needs.

Until you have had considerable practice your spinning will be made easier if you have some sort of swivel on the free end of your lariat. One of the simplest swivels

EYE SPLICE

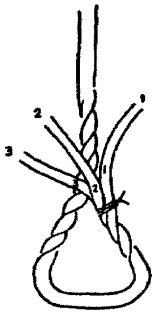


Fig 1

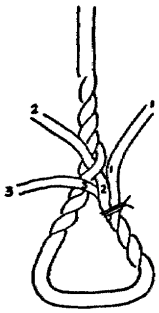


Fig 2

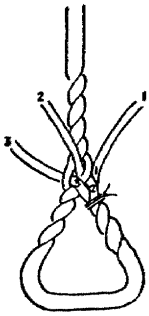


Fig 3

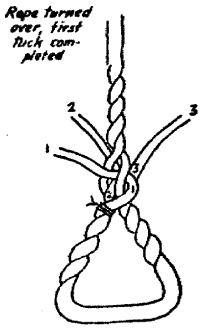


Fig 4

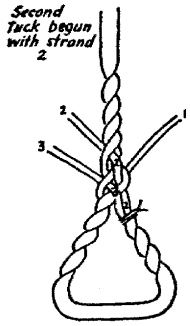


Fig 5

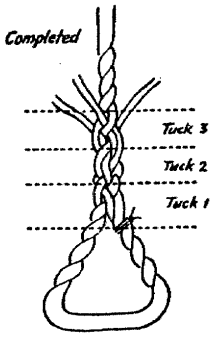
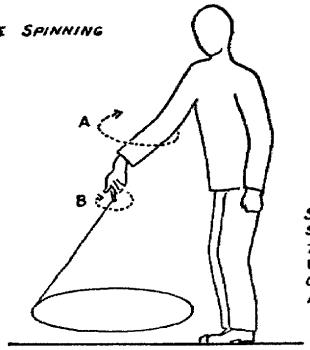


Fig 6

ROPE SPINNING

SWIVEL HOOK FOR HANDLE



START WITH A SWEEPING MOTION OF THE WHOLE ARM AS "A" CHANGE TO WRIST MOTION ONLY AS "B"

Plate No. 9

to procure is a swivel snap hook such as is used on dog leashes. It can be obtained at most hardware stores. Splice the swivel into the free end of your line with an eye splice preferably, or if the splicing is too much trouble tie it in with one of the loop or ring knots. If you desire you may wind tape around the snap hook so that it is easier to hold. The hook will serve as a handle to hold in your hand when you do the spinning. See Plate No. 9.

Run the free end of your lariat through the slip knot so as to form a loop about 2½ feet in diameter. This will give you a free end a little over two feet long. Pull up on your slip knot so that the large loop will not vary in size. Spread the loop out on the ground and grasp the handle in your right hand. Start spinning by making several sweeping circular motions with your arm as at A. Hold the rope well away from you so that it does not come in contact with your legs. After the loop is well off the ground, which should not take more than two or three arm sweeps, stop this motion completely and start a stirring motion of the wrist only as at B. Your rope should now be spinning with an open loop and will continue so as long as you keep up the slight wrist motion. This wrist motion is exactly the same as you would use if you were stirring a glass of iced tea with a long spoon. The hand describes a circle not more than 3 to 5 inches in diameter. This is the secret of your rope spinning. You will probably find that you cannot do it at first but that after you have tried a number of times and are just about to give up for good, the proper motion will suddenly come. After you have become proficient by using your swivel handle, try it without this by allowing the free end to twist around in your hand. You will find that with a little practice this is quite easy. You are now in a position to fashion a lariat from any piece of rope wherever you find it and to spin it with the best of them.

A Few Notes on Manila Rope

MANILA FIBER

Manila Hemp, the Technical name for which is Abaca is practically the strongest and most rot resistant fiber known to man. A Manila fiber rope will lift as much as a bar of mild steel of equal length and weight. Most of the Manila fiber that is used comes from the Philippine Islands, although some Manila fiber is now being grown in Central America.

The Abaca plant resembles the Banana plant, to which it is related botanically. The fiber is the dried tough sinews of the interior of the leaves or stalks of the plant; the pulpy leaf matter having been scraped away. The fiber is all graded in the Philippine Islands by United States Government inspectors, and the United States takes only the best grades. That is one reason why, besides better manufacturing methods, rope made in the U. S. is superior to that made in other countries.

MANUFACTURE

The fiber is first put through a series of combing machines which lay every individual fiber parallel to its neighbor, as well as combining the fibers into one long untwisted length called a "roving". While this process is going on the fibers are lubricated or subjected to any special treatment such as the New Bedford Cordage Co. "Maritime", which might fit their needs.

The roving after being carefully combed is put on a "spinning jenny" where it is twisted into yarn. The yarns are then brought to the actual rope making machines where they are "formed" and "laid" into the thousands of different types of rope called for by American Industry, transportation and shipping.

MARITIME TREATMENT

New Bedford "Maritime" treatment is a special treatment developed by the New Bedford Cordage Co. which enhances the natural properties of Manila fibers. Abaca is in itself comparatively rot resistant; Maritime treated Abaca is more so. Ordinary Manila fiber swells when wet;

Maritime treatment reduces this effect by slowing up the entrance of moisture into the fiber cells. Maritime treatment has good insulating properties, and a Maritime treated rope will, under equal conditions, resist the passage of an electric current to a greater extent than other types of rope. The Maritime treatment also increases the natural toughness of the Manila fiber.

WEAR ON MANILA ROPE

Notwithstanding the toughness of Maritime Manila rope, it does eventually wear out like everything else in the world.

In almost every activity rope becomes useless from three causes: First, due to too great strain it can break and the remaining pieces generally are too short for further use.

Second, the fiber in the yarns can be cut by a sharp object or abraded by rubbing over a snag or very rough place. These things very often cannot be helped, yet careful handling will prevent some of them.

The third thing which causes a rope to become useless is more or less normal surface wear. This is what occurs in a large majority of cases. The outside fibers of the rope are simply worn off by contact with objects against which they rub. If these objects are unusually rough the fibers wear away faster. If they are smooth, or the pressure on contact is light, the fibers wear slowly and the rope lasts a long time.

After surface wear has progressed for some time, the ends of the worn and severed fibers begin to stick up between the strands giving the impression of a prickly rope. If a rope in this condition be taken apart, what is left of the worn fibers can be pulled away perhaps giving the impression of short fiber — which is actually not present except that the fiber has been worn into shorter pieces than were originally present.

Even after a good deal of surface wear, enough good fibers are generally left in a rope to take most normal strain, but the length is reduced in proportion to the amount of fiber which has worn away.

A BIT OF HISTORY

"A DEAD WHALE—OR A STOVE BOAT," the famous New Bedford Whaleman statue with its epic inscription symbolizes the history and spirit of the New Bedford Cordage Company. In 1842, a number of shipowners and captains of vessels in New Bedford, which was then the centre of the great whaling industry, decided to make rope for use on their own vessels. Their venture was successful, and their product soon became so favorably known that other shipowners were glad to buy their surplus stock. Therefore, on February 2, 1846, the New Bedford Cordage Co. was incorporated under the laws of the State of Massachusetts "for the purpose of manufacturing cordage in the town of New Bedford." There remain as stockholders of the Company, descendants of the officers who were elected at the first meeting of the corporation on April 2, 1846. The mill still occupies its first site—"up on the hill."

In the year the New Bedford Cordage Co. was started, there were but few railroads in the United States; the telegraph had not yet come into public use; John Tyler was the President of the United States, and the Mexican and Civil Wars were yet to be fought.

Our Company has been in existence for over a century; but, although the original founders have long ago been called to their fathers, the Company they established remains as a living testimony of their ability to make good rope.

SPECIFICATION TABLE — "NEW BEDFORD" MANILA ROPE

Size	Diameter (Nominal) Inches	Approx. Net Weight of 100 Feet Pounds	Minimum Length in One Pound Feet	Approx. Gross Weight Full Coils Pounds	Breaking Strength (Minimum) Pounds
6 thd. fine	3/16	1.29	76.0	*35	450
6 thd.	1/4	1.96	50.0	*35	600
9 thd.	5/16	2.84	34.5	*55	1,000
12 thd.	3/8	4.02	24.4	*65	1,350
15 thd.	7/16	5.15	19.0	63	1,750
18 thd.	15/32	6.13	16.0	75	2,250
21 thd.	1/2	7.35	13.3	90	2,650
1 3/4" Cir.	9/16	10.2	9.61	125	3,450
2" Cir.	5/8	13.1	7.52	160	4,400
2 1/4" Cir.	3/4	16.3	6.00	200	5,400
2 1/2" Cir.	13/16	19.1	5.13	234	6,500
2 3/4" Cir.	7/8	22.0	4.45	270	7,700
3" Cir.	1	26.5	3.71	324	9,000
3 1/4" Cir.	1 1/16	30.7	3.20	375	10,500
3 1/2" Cir.	1 1/8	35.2	2.78	432	12,000
3 3/4" Cir.	1 1/4	40.8	2.40	502	13,500
4" Cir.	1 5/16	46.9	2.09	576	15,000
4 1/2" Cir.	1 1/2	58.8	1.67	720	18,500
5" Cir.	1 5/8	73.0	1.34	893	22,500
5 1/2" Cir.	1 3/4	87.7	1.12	1,073	26,500
6" Cir.	2	105.0	.930	1,290	31,000
6 1/2" Cir.	2 1/8	123.0	.800	1,503	36,000
7" Cir.	2 1/4	143.0	.685	1,752	41,000
7 1/2" Cir.	2 1/2	163.0	.600	2,004	46,500
8" Cir.	2 5/8	187.0	.524	2,290	52,000
8 1/2" Cir.	2 7/8	211.0	.465	2,580	58,000
9" Cir.	3	237.0	.414	2,900	64,000
9 1/2" Cir.	3 1/8	264.0	.372	3,225	71,000
10" Cir.	3 1/4	292.0	.335	3,590	77,000
11" Cir.	3 1/2	360.0	.273	4,400	91,000
12" Cir.	3 3/4	426.0	.230	5,225	105,000

*Standard coils are made to weight as shown. Other sizes: 1200 feet per full coil, 600 feet per half coil. Four strand rope weighs approximately 6% more than 3 strand rope.