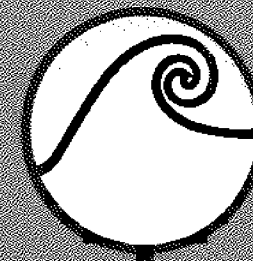


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GILLNET HANGING

by

Paula Cullenberg



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GILLNET HANGING

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University of Alaska
Marine Advisory Program

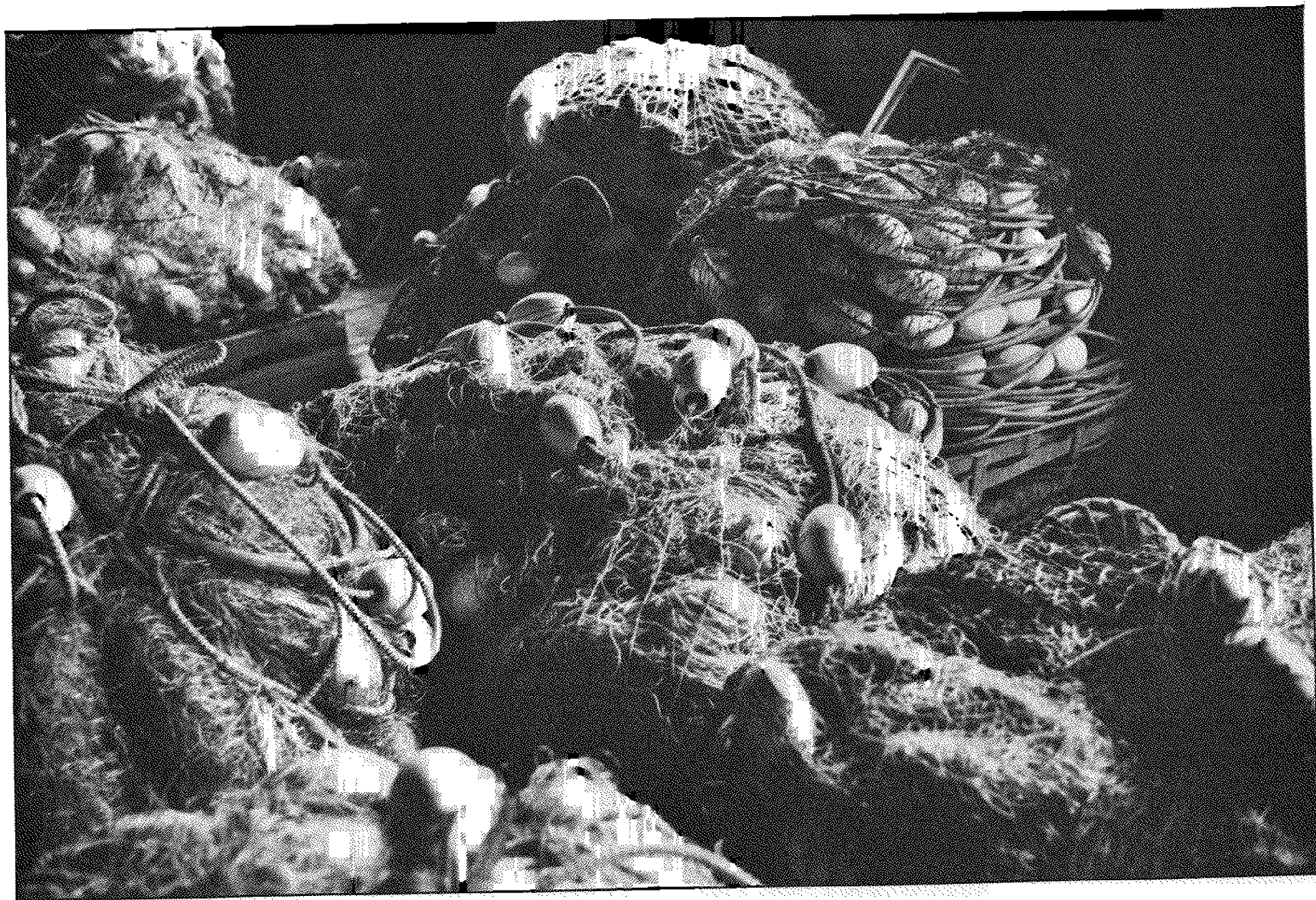
Hanging a gillnet is tying the web to the corkline and leadline. A good hanging job is the fine tuning of a net to a particular fishery and can be critical to the net's success in catching fish. Nets are hung differently for setnets or driftnets, for heavy fishing or "scratch" fishing, or for fishing in waters filled with seaweed or other debris.

Even if you buy your net pre-hung, you should understand what net hanging is all about. That way you can specify how you want your net hung to fish most successfully in your area. You will also know what to do if the net gets damaged or if you decide to replace the web or change your hanging ratio.

Hanging a good net is an art and there are many excellent professional hangers who are noted for their speed, the strength of their knots, and their ability to custom fit a net to a particular fishery. Every net hanger devises his or her own technique. This publication is a general description of how to hang salmon and herring nets for fishermen who want to hang their own nets. For the specifics on your fishery and your region, you'll need to talk to an experienced net hanger, your net salesman or other fishermen. What works for them will probably work for you.

TABLE OF CONTENTS

STEP ONE- PLANNING THE NET	3
STEP TWO- BUYING SUPPLIES	
Web	4
Leadline	4
Corkline	5
Corks	5
Hanging twine	5
Needles	5
STEP THREE- DETERMINING THE HANGING RATIO	6
STEP FOUR - HANGING THE NET	8
The knot	
Style 1- Double or triple knot	10
Style 2- Rolling hitch	12
Hanging the corkline	13
Hanging the Leadline	14
STEP FIVE- FINISHING UP	
Hanging the Breastline	14
Ending the Corkline and leadline	15
Repairing the corkline and leadline	15
Weedlines	15
Herring nets	17



First, think about what type of fishing you can expect. The standard net is 100 fathoms of web hung onto 50 fathoms of corkline. This is a 2:1 ratio of web to corkline length. The net is hung "even".

But, hanging will vary with the type of fish caught; the species of salmon; whether you are fishing a setnet or a driftnet; whether you expect the run to be weak or strong; whether there will be much current, weeds or snags; and how the net will be pulled—by hand, power roller or reel.

Setnets are anchored to the beach and generally take more of a beating from wave action and floating debris than do driftnets. Most salmon setnetters use larger diameter corklines, 1/2 or 5/8 in., more flotation, and a heavy leadline, 175 to 300 lbs, to hold the net steady in strong tidal or wave action.

Driftnets and most setnets usually have a leadline that is hung from three to eight percent longer than the corkline to offset the stress of being pulled by a power reel and to prevent roll-ups when it drags on the bottom. Hanging a longer leadline means making the hanging knots farther apart. In Bristol Bay and on the Copper River Delta, for example, this is generally 1/4 to 1/2 in. longer per hanging than the corkline.

If fishing is expected to be heavy you may want to hang the net "out" a bit (on the corkline, hangings will be 1/8 to 3/8 in. longer) to spread the web and make it easier to pick the fish (Figure 1). Less web is hung on 50 fathoms of line. Hanging a net "out" makes the diamond in the mesh square so that the fish pop out of the net more easily. Herring gillnets are hung "out" to accommodate the high volume of fish caught in them.

Often if you are scratch fishing, when the run is weak and every fish counts, or if you want to snag kings in a sockeye net, you will hang more web onto the corkline (net is hung "in") (Figure 2). The hanging knots will be closer together, about 1/8 to 1/2 in. or so per hanging on the corkline. This results in a loose diamond, making the net baggier. Fish hitting a loose net will entangle themselves instead of bouncing away, as they would from a taut net.

If you are fishing in an area with a lot of seaweed or floating debris in the water, or in big ocean surges, a weedline can be used. A weedline is hung onto the web and then tied below the corkline creating some open space that allows the weeds to pass through the net. It also prevents the net from shaking in rough weather, by creating a space between a bouncing corkline and the web.

Think about these specifics before you get started and ask fishermen, net hangers, and net salesmen to find out what works best in your region. It will help you buy the parts to the net and to calculate your hanging distance before you start your net.

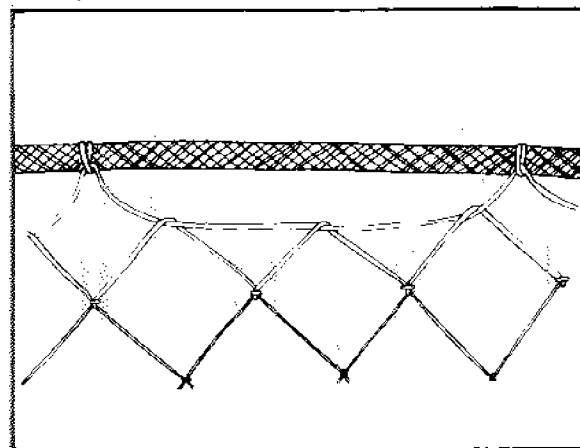


Figure 1

STEP ONE: PLANNING THE NET

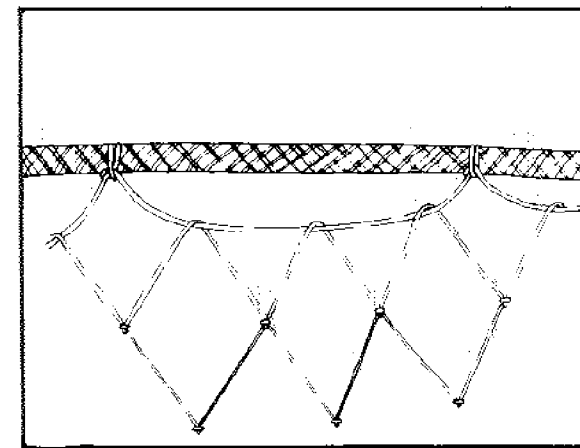


Figure 2

STEP TWO: BUYING SUPPLIES

You will need web, leadline, corkline, corks, weedline if you are using one, hanging twine, needles, and some type of hanging setup, either a board or a bench or a good spot in your backyard. A yardstick and some black electrician's tape are also helpful.

WEB

Salmon gillnets are machine-made from multifilament strands of nylon. Herring gillnets are monofilament (one strand of nylon). Monofilament mesh is generally accepted as extremely efficient at killing fish since light passes through the single filament, making the net virtually invisible to fish. In an attempt to reduce fishing efficiency, monofilament salmon web has been prohibited in Alaska.

Until 1982, most salmon gillnets were "supercrystal", a web composed of many filaments of nylon wound together. Lately, many fishermen have started using a web that consists of at least six strands of nylon filament surrounding a center core of the remaining required strands. Each new web is another attempt to duplicate the efficiency of monofilament gear. Center-core web does sacrifice strength for the increased light passage. Some fishermen fishing in silty water still use the stronger supercrystal for their nets.

Mesh size will vary with the species of fish you are targeting. Mesh size is measured by the "stretched mesh" distance. To find the mesh size, take the top and bottom knots of one diamond in the mesh and pull them apart so that both sides of the diamond are together (Figure 3). The distance from the top of the top knot to the top of

the bottom knot is the mesh size. Breaking strength of the web and color will also vary with the species you are catching and where you are fishing. The depth of the net will depend on where you are fishing and what the regulations are in that region.

The length of the web used to hang a 50 fathom shackle of gear will depend how loose or taut you want your net to be-- if you are hanging it "in" or "out" or "even." Standard or "even" is to hang 100 fathoms of web on a 50 fathom line. But you can hang more or less web on the line. Ask around in your area.

LEADLINE

Leadlines are made of braided polypropylene over a flexible lead core. The standard leadline will come in a 55 or 110 fathom length. Leadlines are ordered by weight of a 100 fathom piece of line. Weights can vary from 30 to 300 lbs per 100 fathoms. A leadline that weighs 140 lbs or less has a breaking strength of 800 lbs. Heavier leadline has a breaking strength of 1,500 lbs. A river leadline is also made that has a weaker breaking strength to break away from snags more easily.

The weight of the leadline will affect how the net fishes and will vary considerably from fishery to fishery. In Bristol Bay, for example, fishermen use leadlines from 120 to 200 lbs to drift for sockeye salmon. Sockeye gear in Prince William Sound uses 90 to 110 lbs for the leadline. Setnetters often use heavier leadlines to hold the net down in strong tides. On the other hand, a king net that drags bottom drifting down the Yukon River will need a lighter leadline. The final decision depends on where and how you fish. Ask around.

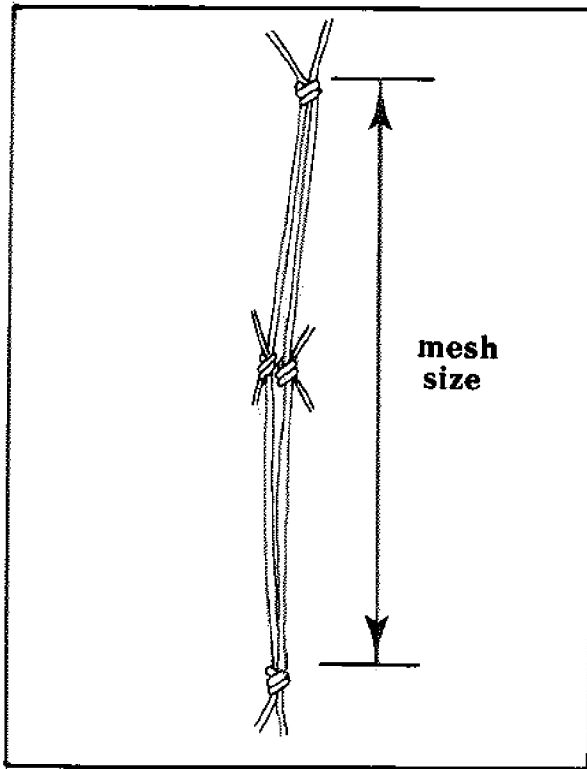


Figure 3

CORKLINE

Corkline is braided polypropylene line varying both in thickness and in how stiff it is to handle. Generally, a stiffer corkline holds the net straighter, but is harder to handle for hand pulling and setting. A larger diameter corkline is also easier to handle. Most new corklines come in 55 fathom lengths allowing you some extra to finish off with loops at the end.

CORKS

Corks are made of closed-cell foam, either PVC (polyvinyl chloride) or the newer EVA (ethylvinyl acetate). They vary in both size and buoyancy--salmon corks usually have 21 oz of buoyancy, herring corks are smaller with 11 oz of buoyancy. The amount of flotation needed depends on the weight of the leadline and the amount of fish you expect in your net. Too much buoyancy will cause the net to shake in the water. A good rule of thumb for salmon driftnets is to have two to two and one half times the amount of buoyancy as weight in the leadline. Setnets will often use even more flotation. A high volume driftnet fishery such as Bristol Bay will use more flotation because of the weight of the fish. Herring nets are sunken gillnets and so require less buoyancy, generally two thirds to three quarters as buoyant as the weight of the leadline.

HANGING TWINE

Hanging twine is made of braided nylon. It is designed to shrink about 12 to 15 percent when it gets wet to cinch up the hanging knots. For driftnets, use a lighter hanging twine for the leadline than the corkline. This allows the hangings to break free if the leadline gets caught on a snag.

Most drift fishermen use a No. 21 hanging twine on the corkline and a No. 18 or No. 15 on the leadline, although some use No. 15 on the corkline and No. 12 on the leads. Setnetters often use heavier hanging twine--No. 24 for example, and use the same strength for both the corkline and leadline. Some net hangers soak their loaded net needles in cold water before hanging to make the knots slip less as the twine shrinks and to keep the twine from soaking up moisture from their hands.

NEEDLES

There are two types of net needles, flat and Norwegian style and both come in various sizes. Norwegian needles are used more often and are easier to load. Professional net hangers use automatic needle loaders.

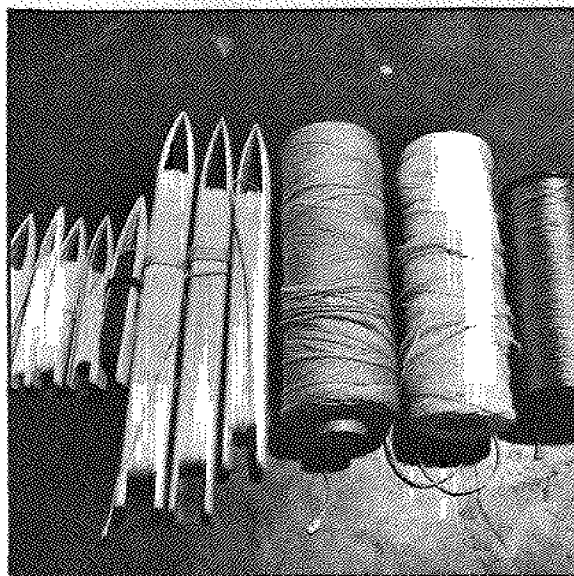


Figure 4

A net salesman who is experienced in your area may be able to give you a good idea of what local fishermen are using. He, more than any single fisherman, may have seen the range of gear that is used in your region and will know the options available to you.

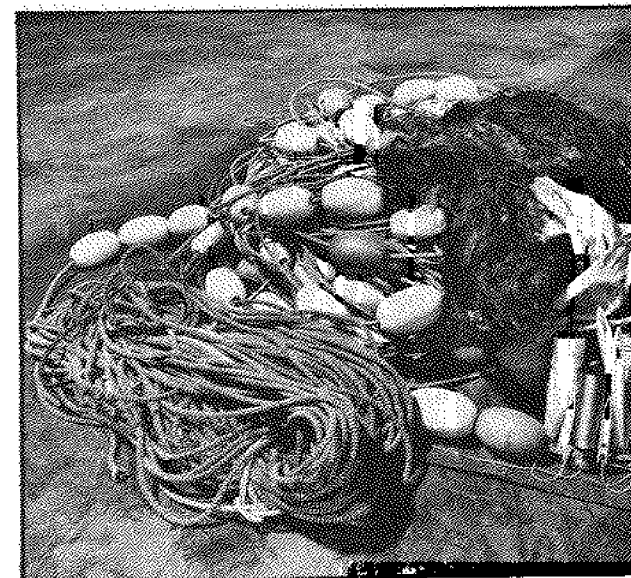


Figure 5

STEP THREE: DETERMINING THE HANGING RATIO

"Determining the hanging ratio and hanging distance is critical in constructing a gillnet that fishes successfully"

$$\text{Hanging ratio} = \frac{\text{length of web}}{\text{length of line}}$$

$$\text{Hanging distance} = \frac{\text{mesh size} \times \text{number of meshes}}{\text{hanging ratio}}$$

The hanging ratio is the length of web divided by the length of the corkline or leadline. Standard is to hang 100 fathoms of web on 50 fathoms of corkline. The hanging ratio is 2:1.

The hanging distance is how far apart to tie the hanging knots. Determining the hanging ratio and hanging distance is critical in constructing a gillnet that fishes successfully.

Determining the hanging distance for a standard net with a hanging ratio of 2:1 is simple. First, decide how many meshes you will pick up between each knot. In general, pick up two meshes when hanging a king salmon net and three meshes when hanging other salmon nets. On leadlines, the general rule is to pick up two meshes and skip one. To calculate the hanging distance, measure the stretched length of the number of meshes (both picked up and skipped) between each knot and divide by two.

For example, suppose you are hanging 100 fathoms of sockeye web with a mesh size of 5 1/8 in. on 50 fathoms of corkline. To find your hanging distance, multiply 5 1/8 by 3 and take one-half of that distance. Your hanging distance will be 7 11/16 in.

If you want to hang your net "in" (more web on 50 fathoms of corkline) or "out" (less web on 50 fathoms of line), both the hanging ratio and the hanging distance will change.

For example, suppose you wanted to hang 120 fathoms of that same 5 1/8 in. sockeye gear on a 50 fathom length of corkline. The hanging ratio of web to line would now be 120 to 50 or 2.4.

$$\text{hanging ratio} = \frac{\text{length of web (120 fathoms)}}{\text{length of corkline (50 fathoms)}} = 2.4$$

To find the hanging distance, first multiply the mesh size by the number of meshes you are picking up between knots. Multiplying 5 1/8 by 3 gives you 15 3/8, or 15.40 in. Then divide that by the hanging ratio of 2.4. 15.40 divided by 2.4 equals 6.41 in. or about 6 3/8 in. between hanging knots on the corkline. Use the table below to convert decimals to inches (Figure 6). Notice that the hanging distance between knots is less than hanging the net even. Since you are hanging more web on the same length of line, the knots are closer together. In other words:

$$\begin{aligned} \text{hanging distance} &= \frac{\text{mesh size (5 1/8)} \times \text{number of meshes (3)}}{\text{hanging ratio (2.4)}} \\ &= 6.41 \text{ or } 6 \frac{3}{8} \text{ in.} \end{aligned}$$

Leadlines on most nets are about three to eight percent longer than the corkline. This means that the hanging distance will be greater--the knots will be farther apart. Generally, leadline hanging distances are usually 1/4 to 3/4 in. greater than the corkline hanging distance. The leadline hanging distance can be calculated by first adding three to eight percent to the leadline length. For example, add 5 percent, or 2.5 fathoms to the leadline. Now you have a line length of 52.5 fathoms.

$$\text{hanging ratio} = \frac{120 \text{ fathoms web}}{52.5 \text{ fathoms leadline}} \\ = 2.29$$

$$\text{hanging distance} = \frac{5 \frac{1}{8} \times 3}{2.3} \\ = 6.68 \text{ or } 6 \frac{11}{16} \text{ in.}$$

The hanging knots on the leadline will be 6 11/16 in. apart.

Let's do another example. Herring nets generally hang with 75 fathoms of web on a 50 fathom line. Dividing the web length by the corkline length gives you a hanging ratio of 1.5.

$$\text{hanging ratio} = \frac{75 \text{ fathoms web}}{50 \text{ fathoms of corkline}} \\ = 1.5$$

Now, let's say that your herring net has a mesh size of 2 1/2 in. Usually, with herring nets, pick up four meshes and skip one. Multiply 2 1/2 in. by 5 meshes and divide by 1.5. Your hanging distance will be 8.3 or 8 5/16 in.

$$\text{hanging distance} = \frac{2 \frac{1}{2} \text{ in.} \times 5 \text{ meshes}}{1.5} \\ = 8.33 \text{ or } 8 \frac{5}{16} \text{ in.}$$

You can figure out how many hangings you will have on the line by converting your line distance to inches and dividing by the hanging length. For the herring net, 50 fathoms of line converts to 3,600 in. Dividing that by a 8 5/16 in. hanging distance shows that there will be 434 hangings on that line.

Knowing the number of hangings will tell you how often to tie on a cork. If you have 85 corks to hang on the herring net, divide 434 by 85. You will tie on a cork every fifth hanging.

CONVERSION TABLE

Decimals	Inches
.10	1/8
.15	3/16
.20	3/16
.25	1/4
.30	5/16
.35	5/16
.40	3/8
.45	7/16
.50	1/2
.55	9/16
.60	5/8
.65	5/8
.70	11/16
.75	3/4
.80	13/16
.85	7/8
.90	7/8
.95	15/16

Figure 6

STEP FOUR: HANGING THE NET

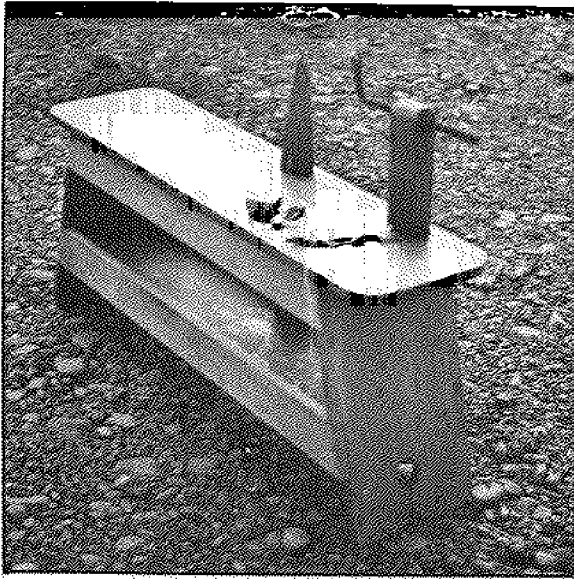


Figure 7

Before you go on, check and see if you have made these decisions:

- * **How much web to hang on 50 fathoms of line and its depth.**
- * **Weight of leadline.**
- * **Diameter and type of corkline.**
- * **Strength of hanging twine for lead and corkline.**
- * **How many corks to use.**
- * **Whether or not to use a weedline.**
- * **The hanging distance between the knots for the cork and leadline.**
- * **How often to tie on a cork.**

Start by getting set up on a hanging board or bench. A hanging bench is a simple, low bench equipped with a movable arm to adjust for hanging distances (Figure 7). Some benches have a second adjustable arm that acts as a guide for the hanging drop distance from the web to the line.

Gather the web together with a line about ten meshes in from the edge and tie it up to a beam or any other strong spot in your work place. The heavier twine at the top and the bottom edges of the web is called the selvage. These are the meshes you pick up in hanging the net. Move the bench or board to the right distance from the selvage. The hanging drop distance will be set by the distance from the bench to the selvage.

If you are using a bench, set the V-bar at the proper hanging distance from the nail. As you go along, put the last knot you tied into the V and tie the next knot right at the spot that the line meets the nail (Figure 8).

A hanging board is a piece of wood about 12 to 20 ft long set at a height that is comfortable to work at while standing (Figure 9A). Lay some masking tape down the center line of the board and mark it with the proper hanging distance. The lead or corkline is then laid on the board and the web is gathered and tied up with the selvage accessible. The meshes are picked up and a knot is tied at every mark, walking slowly backward as you go. When a stretch is completed, the last knot on the line is brought up to the first mark and the process is repeated.

Of course, there are many creative ways to set up a hanging operation. Some fishermen hang their nets by spreading their entire line and web out on a flat open space. Many nets have been hung by

tying the web to a tree in the backyard on a nice day or up to the ceiling of a living room.

Accuracy and consistency in both the distance between knots and the drop distance from line to web is very important. It is a good idea to check the first few knots with a ruler, and again every so often as you go along. (Figure 9B)

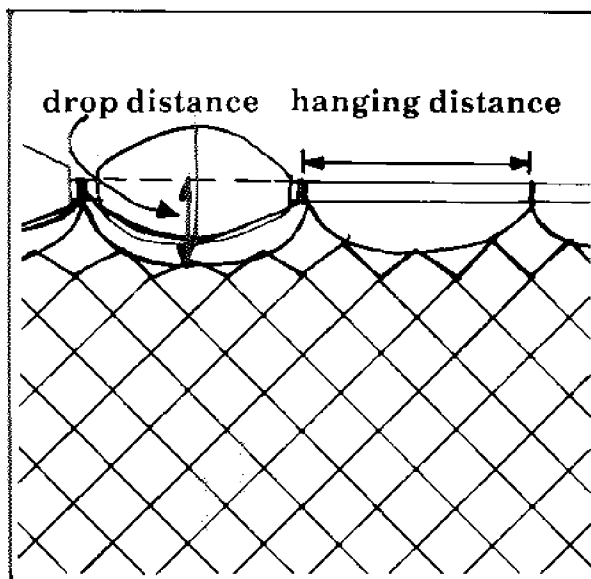


Figure 9B

“ Accuracy and consistency in both the distance between knots and the drop distance from line to web is very important.”

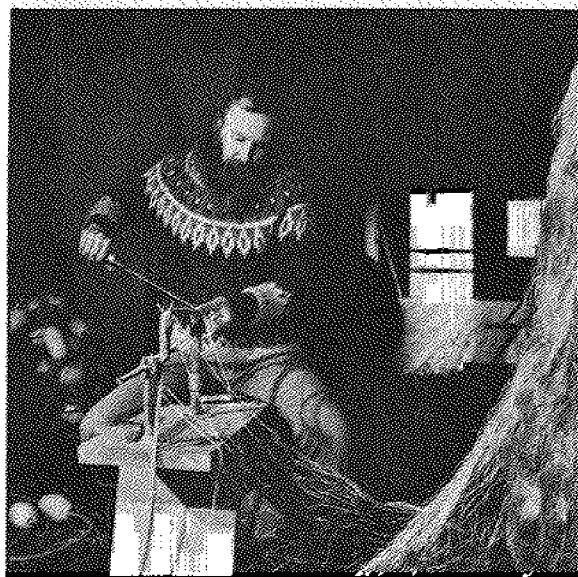


Figure 8



Figure 9

THE KNOT

DOUBLE OR TRIPLE KNOT

All hangers have a favorite knot and feel that theirs is the strongest and the fastest. In general, all are modifications of a clove hitch.

Probably the best knot for the beginner is the double knot. Coming from the last hanging, pass the needle around the back of the cork or leadline and cross the twine over itself on top (Figures 10-12). Put your thumb on the cross and hold it snug against the line with your index finger. Now throw a loop to the left and on top of the line (Figure 13). Bring the needle underneath the line and up through the loop and then pull the knot tight (Figures 14 and 15). * Yank hard on the needle to cinch up the knot. Pulling tight is important--if the knot is not tight, it may slip.

The triple knot is exactly the same as the double knot except that you go back again through the loop you threw to the left (Figures 16 and 17). This adds an extra hitch to the knot. Double and triple in the name of these knots refers to the number of times that the needle goes around the cork or leadline.

Whether to tie a double or triple knot is a source of controversy. A double knot is faster for most people to tie, but may come loose or wear out sooner than a triple knot, especially if you are a novice. On the other hand, the double knot is easier if you plan to strip the net and replace the web every year.

* The knot in the example below is the triple knot. (Finished knot shown in Figure 18)

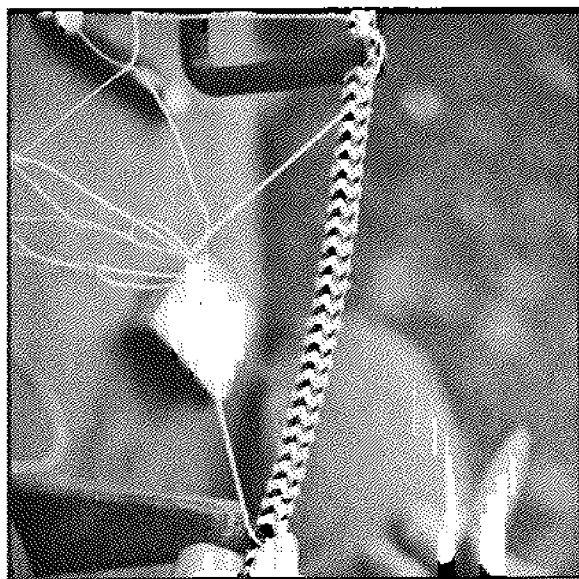


Figure 10

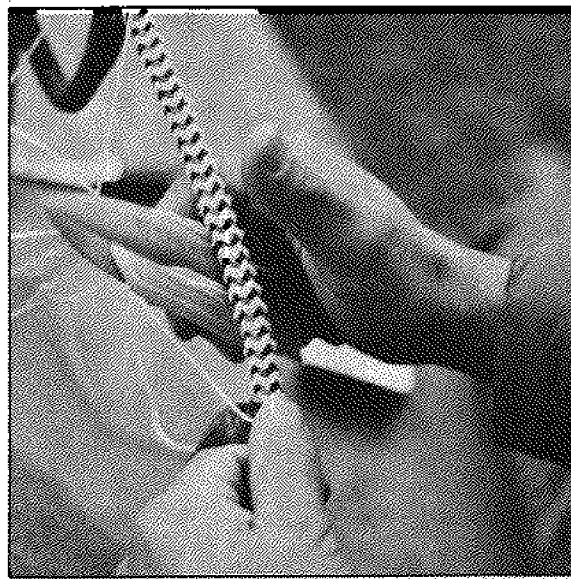


Figure 11

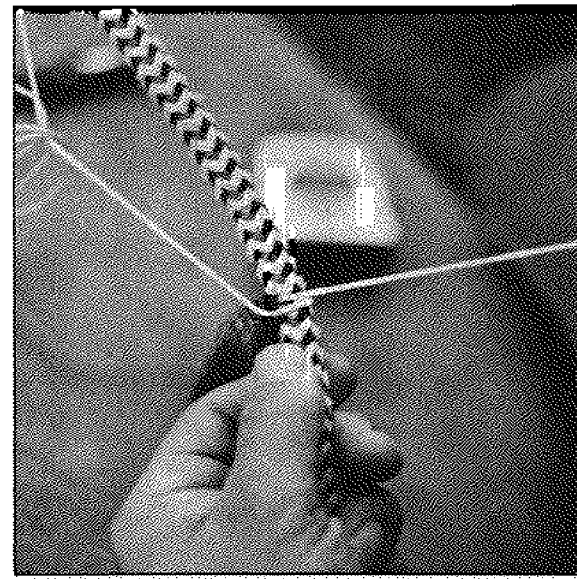


Figure 12

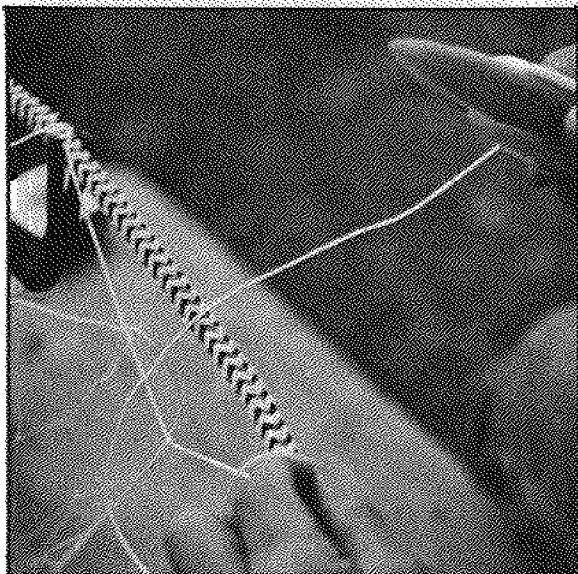


Figure 13

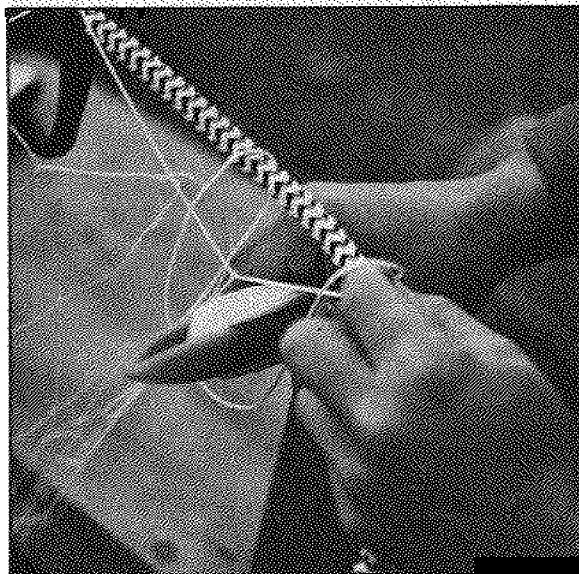


Figure 14

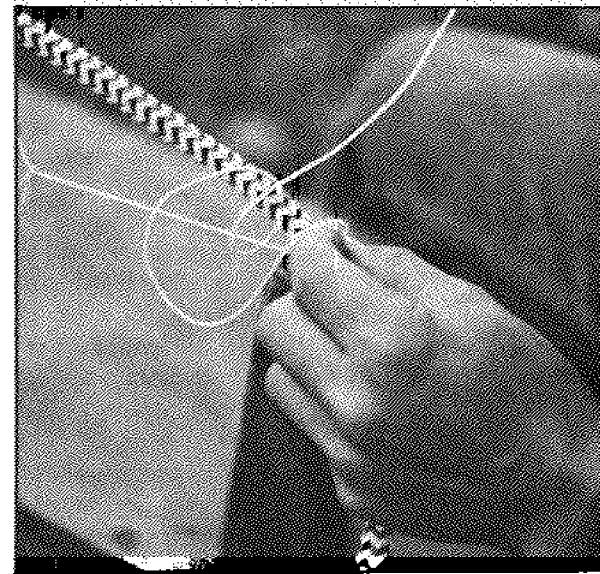


Figure 15

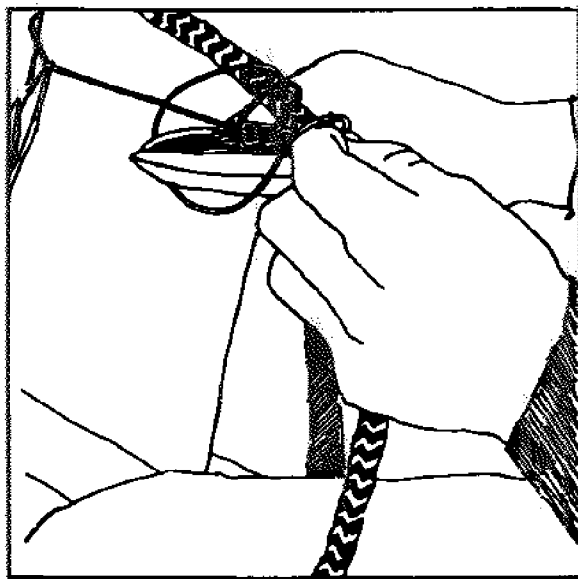


Figure 16

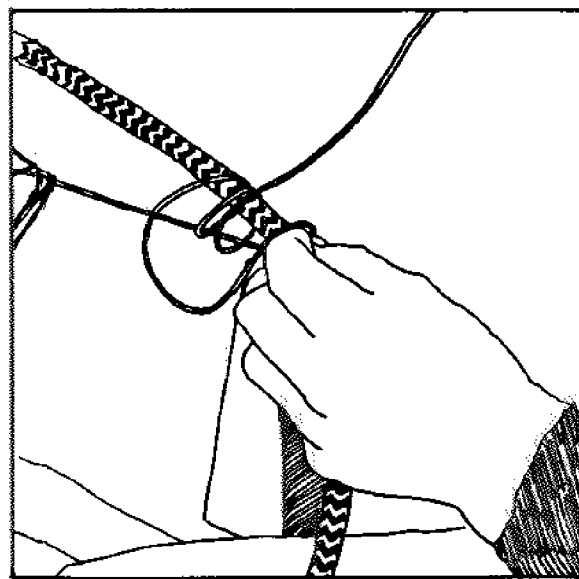


Figure 17

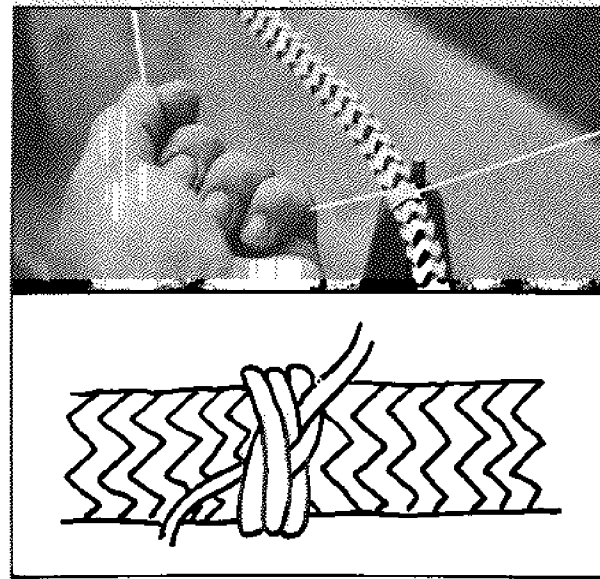


Figure 18

KNOT 2 - ROLLING HITCH

Another common knot is called the "rolling hitch." Pass the twine around the line and make a cross (Figure 19). Now do that again so that you have a cross with two rows of twine underneath the crossing piece of twine (Figure 20). Hold that cross down with your thumb and index finger. Throw a loop to the left and on top of the line (Figure 21). Bring the needle underneath the line and through the loop (Figure 22). Yank hard on the needle to cinch up the knot (Figure 23).

The knots should lie on the line facing the web. On the corkline, they should be on the bottom of the line. On the leadline, the knots will be on the top of the line.

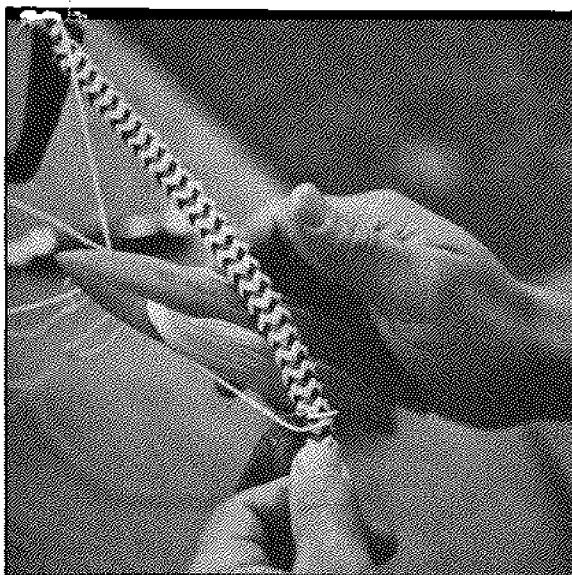


Figure 19

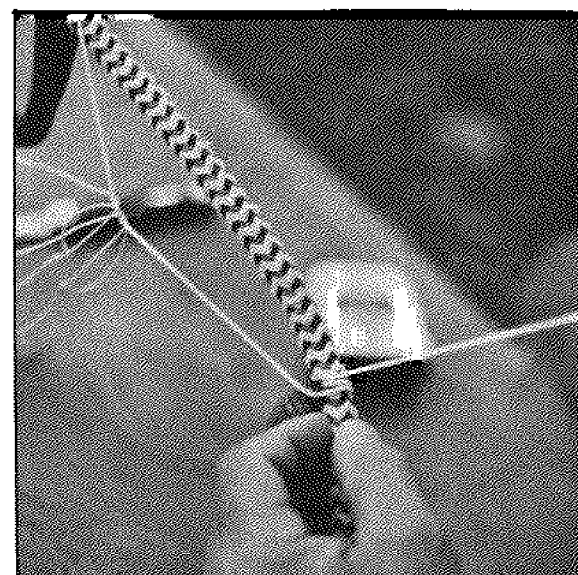


Figure 20

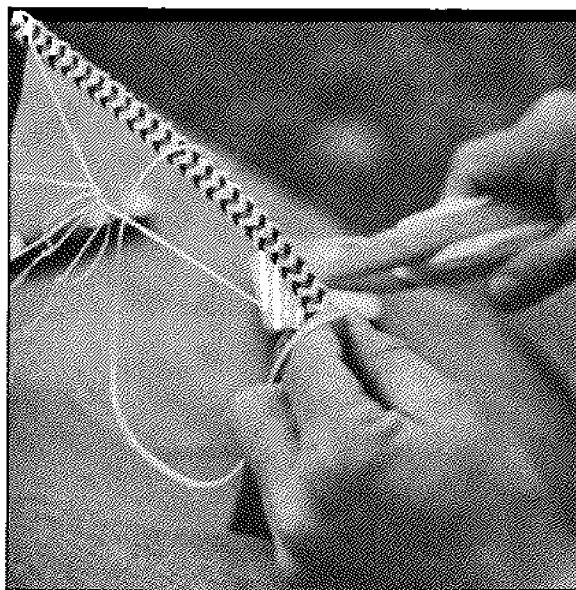


Figure 21

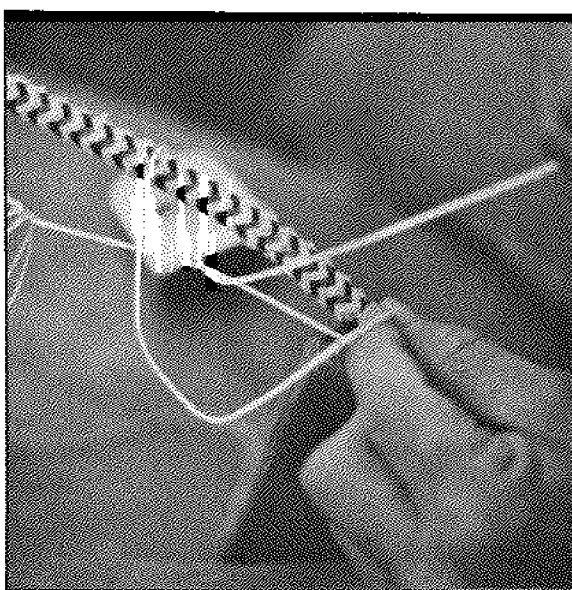


Figure 22

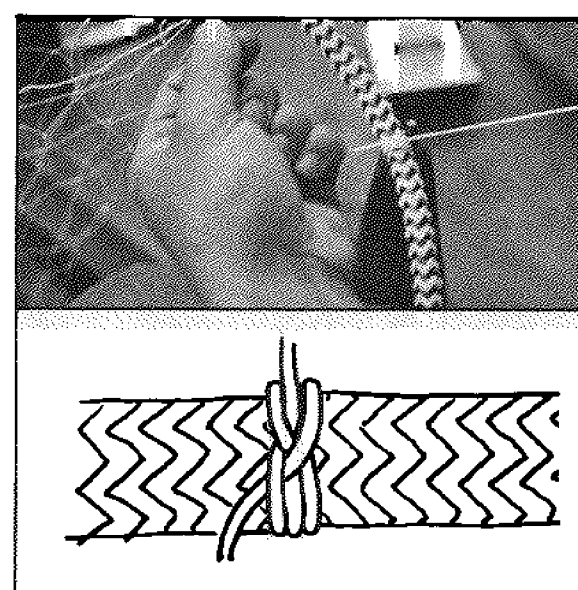


Figure 23

HANGING THE CORKLINE

First of all, get set up. If it is a new corkline on a reel, tie the reel up and make sure the line rolls off from above to avoid twists. An old line will stay free of twists if it is coiled in a figure-eight in a tub or box before you begin or if you run it through a pulley as you go. You might want to mark the line or the hanging board so you will have a reminder of where to put your corks.

String all of the corks on the line. Remember, you have already determined how many corks are needed and their spacing across the net. There are a few different ways to begin the corkline. One possibility is to tie a "pendant" hanging (Figure 24). Tie a knot, pick up six to twelve meshes and double- or triple-tie them back at the same knot. This will add strength to the edge of the net. Be sure and tie these meshes the same distance from the corkline as the hanging drop distance. Then begin hanging by tying two corks in a row and go on from there with the correct cork spacing. Often fishermen will tie one or two red corks here, and another in the middle of a 50 fathom shackle of gear for reference points when setting or pulling the net.

Some fishermen will tie on two corks before picking up any web, as both a marker and for added buoyancy. Still other fishermen pick up the extra beginning meshes in the first hanging under the first cork and then double- or triple-tie that hanging.

A lot of fishermen will double-tie the corks to the line. Double-tying prevents the cork from sliding and wearing out the hanging knots and keeps the corks stationary when the net is pulled by a power roller or reel. To double-tie a cork, tie a knot on the corkline, slide up a cork, pass the twine over the cork and tie it, bring the twine back to the original knot and tie it, pick up the

the meshes, bring the twine back over the cork, tie your final hanging knot and go on.

In hanging most salmon driftnet gear, three meshes are picked up in between each knot as you go along. In hanging king salmon nets, pick up two meshes to compensate for the large mesh size in king gear. Again, this will vary--setnetters often do it differently. Ask around.

The corkline is hung close to the web to prevent fish from swimming through, but not so close that it keeps the net from hanging straight, generally a minimum of 3 1/2 in. from corkline to web. Keeping the drop distance of the hanging consistent across the net is important. Remember to allow for twine shrinkage when the net gets wet.

From this point on, hanging a corkline generally proceeds on the same pattern: pick up three meshes, check the distances, tie a knot, pick up the next three meshes, pick up a cork at the proper interval and double-tie it, pick up three meshes, tie a knot, and so on.

The legal length of a net is measured on the corkline, from one end of the web to the other. You will have reached the end of the 50 fathoms of net when you arrive at the last cork, allowing for two corks at both the beginning and end. Finish the same way you began, by double- or triple-tying six to twelve meshes at the end--or however you began the corkline. Then if you have extra web, cut it straight down to the other end. Your net will now be legal-sized and you will have the appropriate amount of web to use on the leadline.

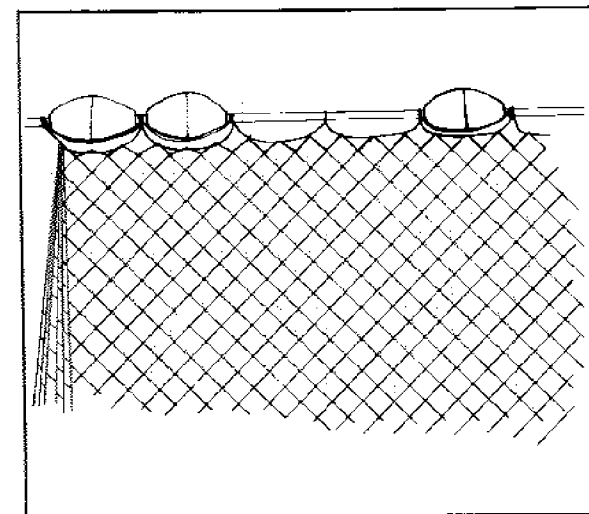


Figure 24

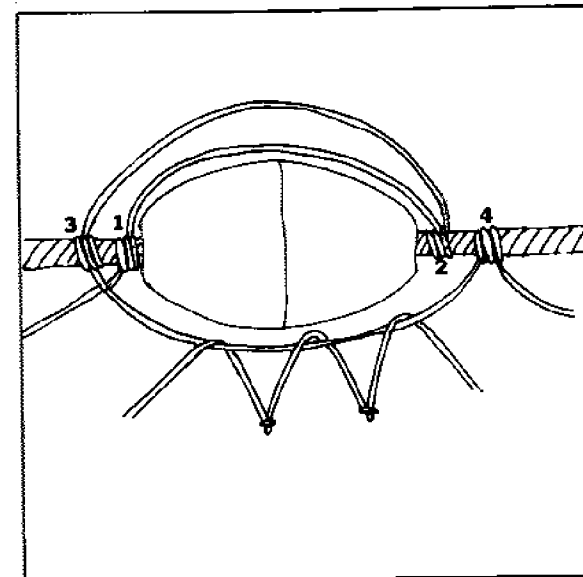


Figure 25

HANGING THE LEADLINE

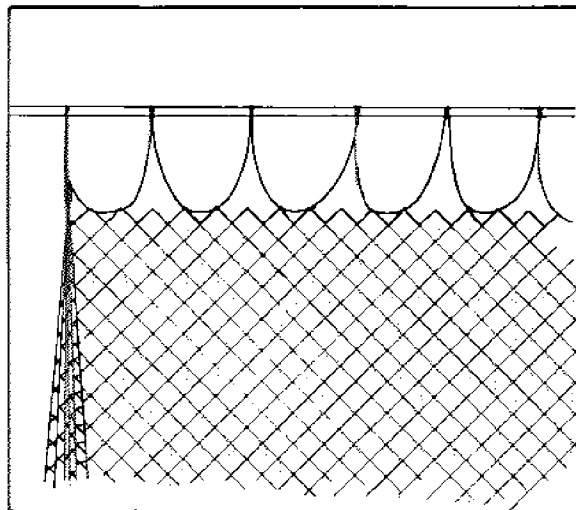


Figure 26

Before hanging the leadline, readjust the bench or board to the new hanging distance as calculated in Step Three, if it is different. For many nets, you will be adding a bit to the hanging distance to end up with a leadline that is about three to eight percent longer than the corkline.

Generally, in hanging a leadline, pick up two meshes and skip one though setnetters often do not skip any (Figure 26). For a driftnet, to prevent rolling, use a drop distance of ten to eleven in. Shorter drop distances (about six to eight in.) are often used with setnets. Driftnetters will use a lighter hanging twine on the leadline than on the corkline--No. 18, 15, or 12. Setnetters often use the same strength on both cork and leadline.

Again, hang the leadline so that it rolls off the spool from above or if it is old, coil it in a figure-eight or run it through a pulley. Even a quarter or half-twist can cause major roll-ups and time consuming kinks in the net. Most leadlines have a "tracer", a color line woven into the braid that you can watch for twists as the line is hung.

Pick up six to twelve meshes in the first and last hanging and tie a "pendant" hanging by either double or triple tying them to the same knot. Be sure to leave a short bit of leadline at the end for finishing.

STEP FIVE: FINISHING UP

HANGING THE BREASTLINE

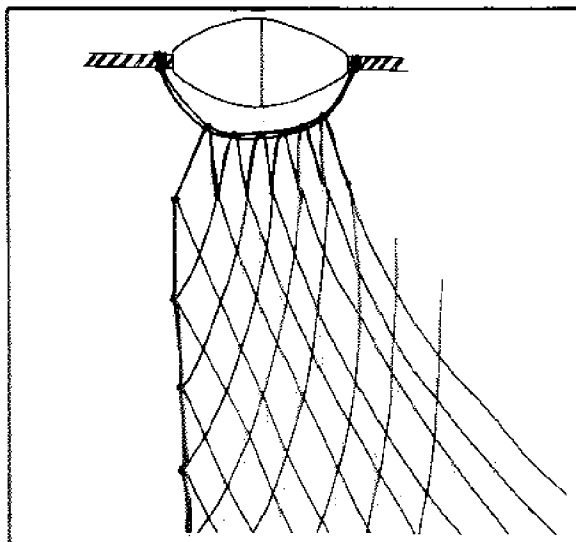


Figure 27

Breastlines are optional but are used to strengthen up the net and protect against tearing from the sides (Figure 27). They are particularly useful in high-volume fisheries where a rip in the side of the net could cause the net to tear across the middle. Use a braided nylon twine, heavier than hanging twine. A No. 60 is often used, or any seine twine is okay.

The breastline is usually tied with a "sider" knot to every mesh on nets up to 45 meshes deep, although many fishermen just tie a breastline to every fourth or fifth knot on the way down. On deeper nets, the top 15 or 20 meshes are tied, then every third or so mesh is tied down the net. The end of the breastline is tied to both the corkline and leadline, leaving enough slack so that the net hangs to its proper depth.

The length of the breastline should be at least as deep as the stretched depth of the net. This will prevent the breastline from shrinking and lifting the leadline up on the sides.

ENDING THE CORKLINE AND LEADLINE

Generally the corkline is ended by forming a loop at the end of the line that can be attached to a carabiner or other sort of attachment to the tow line, buoy or anchor. To form the loop, just double the corkline back on itself to the desired size, allowing 6 to 8 in. to overlap beyond the loop (Figure 28). Whip the end to the corkline with a series of half hitches. Cover the ragged edge with black electrician's tape.

The leadline traditionally is ended by attaching it to a fan belt or something similar (Figure 29). The fan belt helps pull the end of the leadline out as it is tossed over and prevents the end of the leadline from coming back through the web. Just overlap the end of the leadline around a good portion of the fan belt. Whip the two together and cover the ragged ends with black tape.

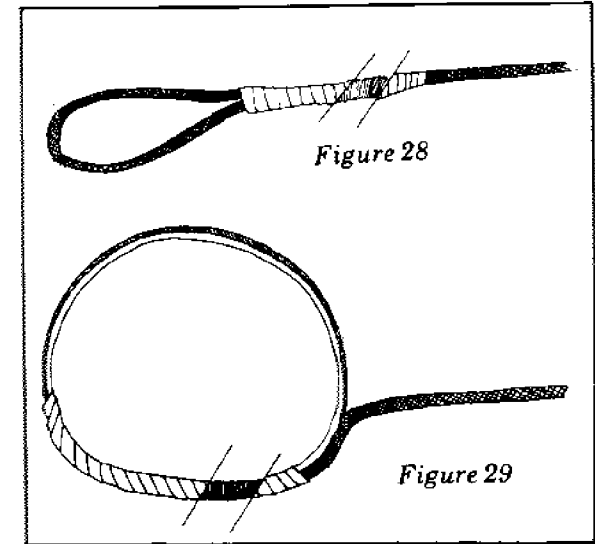
REPAIRING BREAKS IN THE CORKLINE OR LEADLINE

You may have to join together two ends of a cork or leadline that break while fishing. One of the simplest ways to repair a break in the leadline is to remove the leads from the broken ends a few inches back. Then overlap the two ends, whip them together and cover the ragged edges with black tape so they do not hang up in the web. This method shortens the leadline slightly.

Another method is to take a spare piece of leadline about 8 to 10 in. long and remove the leads. Then "milk" the ends of the broken leadline into the empty piece of line. Each end is then whipped and taped.

A broken corkline is reconnected with a double overhand knot. Overlap the ends on the corkline and whip and tape them.

FINISHING UP, CONTINUED



A weedline is used by fishermen in regions that have a lot of seaweed or floating debris (Figure 30). It is also useful in stormy areas since the space created between the weedline and corkline prevents too much movement in the net from bobbing corks. Hanging a weedline is a time consuming addition to constructing a gillnet.

The first step is to hang the weedline to the web. Use hollow-braid polypropylene for the weedline, either dark green or yellow, about 1/4 to 3/8 in. diameter. Hang it to the web just as you would the corkline, beginning and ending with a pendant hanging. The weedline is normally hung even--at a 2:1 ratio of web to weedline. Hang the weedline at least three fathoms longer than the corkline. Most fishermen hang it with No. 15 or 18 hanging twine. Two feet of weedline should be left before the first hanging so that the weedline can be tied to the corkline.

The line should be carefully checked for twists as it is hung. The drop length is variable depending on the area fished--too much will allow the fish to swim through, too little will cause problems when the twine shrinks.

The next step is to prepare the corks and corkline. Figure out how far apart the corks will be on the corkline by dividing the line length by the number of corks. Take one cork, thread it on the corkline. Take about 60 to 70 in. of a heavier twine (No. 36 or 42) and tie it in a loop with a double overhand knot (Figure 31). Use it to tie the cork to the corkline leaving a loop ("dropper") in the middle of the cork, hanging down. The dropper should be snug on the cork and should hang about 7 to 8 in. below the cork. Continue tying on the corks at the correct spacing.

WEEDLINES

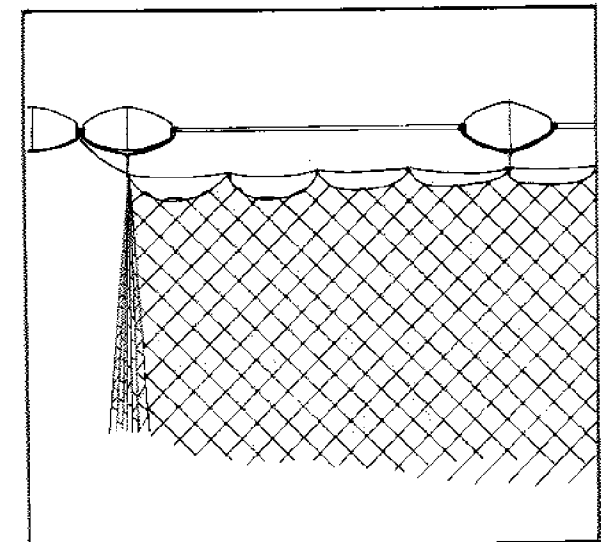


Figure 30

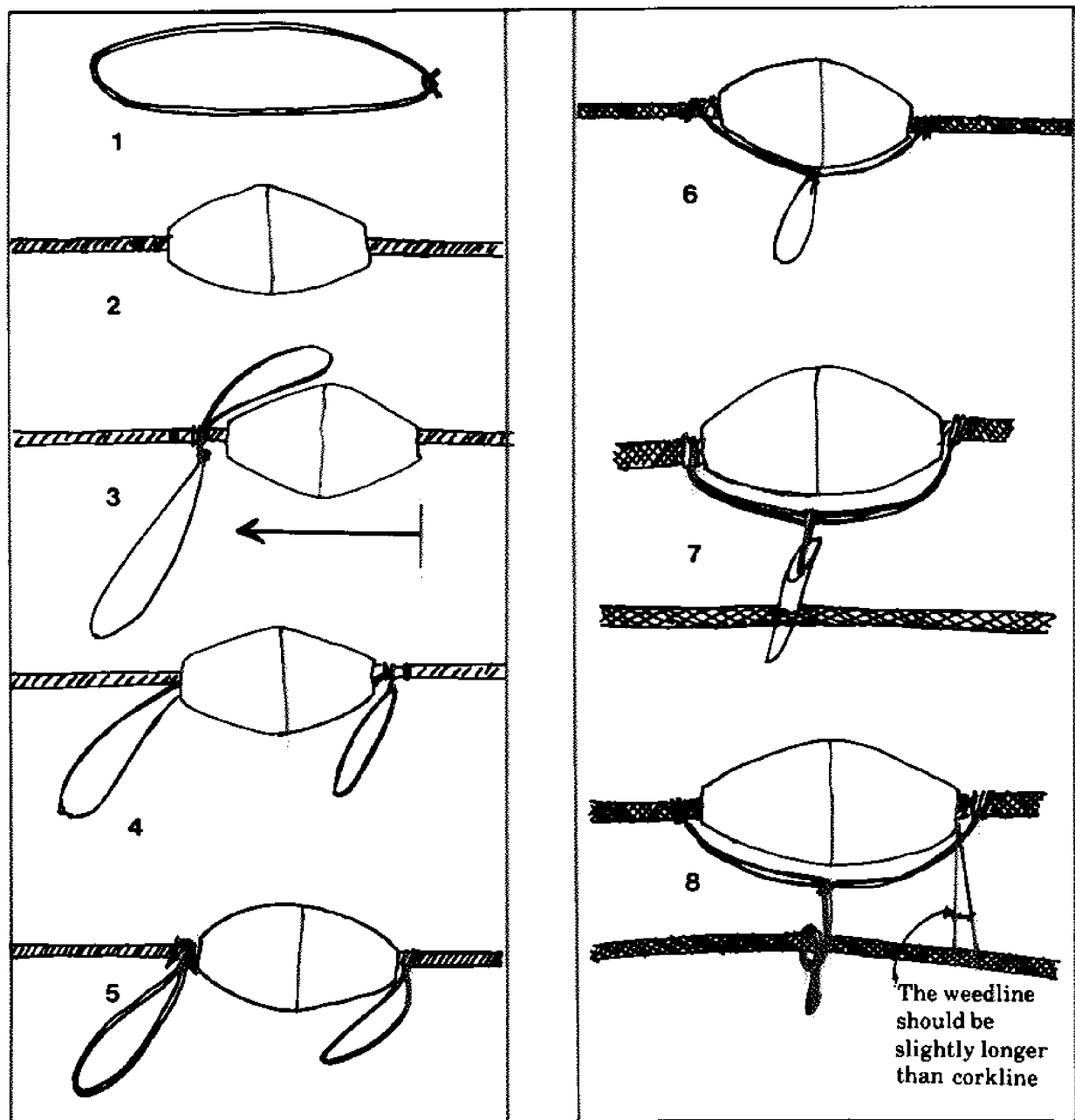


Figure 31

After the proper number of corks are tied, the corkline is attached to the weedline. The end of the weedline is tied to the corkline between the first two corks. Bring the weedline around the corkline and splice it back into itself. Line up the weedline so that the first hanging is even with the first dropper.

The weedline should be slightly longer than the corkline to prevent tension on this weaker line when pulling in the net. To determine the amount of weedline to stretch between each cork, most fishermen add somewhere between 1/2 and 1 1/2 in. to the distance between each cork. To do this and still have enough weedline and web to reach the entire 50 fathom shackle of gear, some extra weedline must be hung. For example, if you add 1/2 in. to the distance between corks when stretching the weedline from cork to cork, about 51 fathoms of weedline and 102 fathoms of web are needed to hang 50 fathoms of corkline. If 1 1/2 in. is added, you must hang 52 fathoms of weedline (104 fathoms of web).

At the proper distance, each dropper is spliced to the weedline (use a fid or a rug hook) and tied (Figure 31). Then stretch the weedline the length needed to the next cork and continue tying on the corks.

Drop distances between corkline and weedline will vary, from 3 to 7 in. in most areas. For surge gear (stormy weather) the weedline is tied closer to the corks.

Tie off the end of the weedline as you began.

HERRING NETS

Herring nets are "diving" nets or sunken setnets designed to fish on the bottom. Flotation for herring gillnets should only be enough to keep the net upright in the water whether or not it is full of fish. Most herring gillnets use smaller corks, each with about 11 oz of buoyancy. A good rule of thumb for herring nets is to use about two thirds to three quarters the amount of buoyancy as weight in the headline.

For example, suppose you are using a 150 lb headline on a 50 fathom herring net. The actual headline will weigh 75 lbs since 150 lbs is based on a 100 fathom length of line. Since herring corks have 11 oz of buoyancy, 80 corks would be about right. Eight corks would have 880 oz or 55 lbs of buoyancy.

In hanging, pick up four meshes and skip one or pick up five and skip one. Most fishermen hang their herring nets "out" quite a bit because of the high volume of their catch and because the fish are shaken from the net, not picked. Refer to Step Three for a good example of calculating a hanging distance for herring nets. The headline is normally up to ten percent longer than the corkline, especially if using hydraulic shakers, since a slack headline makes it easier to drop the fish. Herring corks are usually not double-tied. A drop distance of about 7 in. on the headline is common.

Most fishermen use a heavy headline, about 200 lbs, and a smaller diameter corkline. Hanging twine is usually the same for cork and headline; a No. 15 or 18 is good.

Use a heavy breastline on herring nets since they will have a tendency to rip through the sides when loaded.

Some herring nets include a "shaker panel", a large open area sewn longitudinally in the middle of the net that allows the herring to fall through when shaking the net.

There are several basic ways to put a shaker panel into a herring net. Perhaps the simplest is to tie a length of king salmon web in the middle of two halves of the net (Figure 32). The Canadian-style shaker is simply lacing two halves of the net together (Figure 33). Keep the two halves about 14 to 15 in. apart. Pick up four meshes at the beginning of each side with hanging twine and then zigzag between the two halves of the net. Every 3 ft or so, tie the twine to the meshes to keep the panel intact if one part of it rips. Another method is more labor intensive but probably results in a stronger shaker panel. The panel is hung like a weedline by laying a 3/16 in. poly line down the middle of the separated two halves of the net. There is about a 1 ft. drop above and below the green line. Then just hang the poly line to both halves of the net.

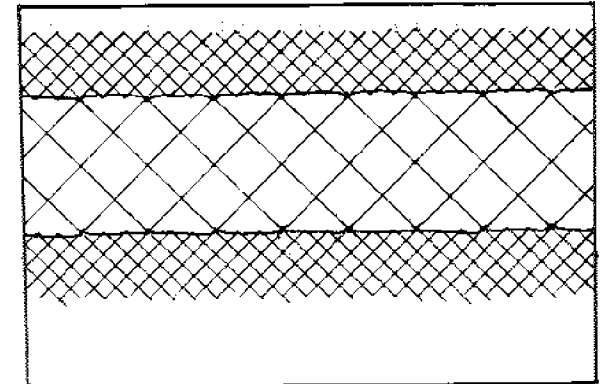


Figure 32

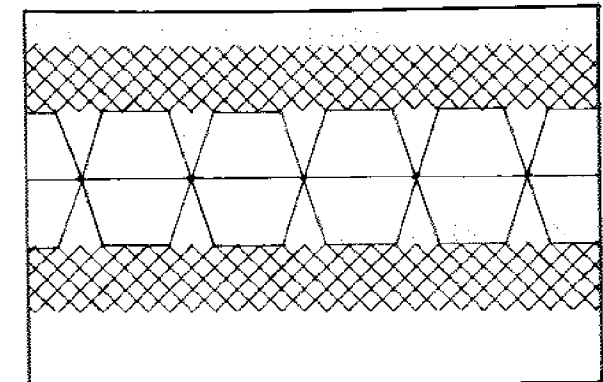


Figure 33