TO CAST A TROUT FLY

A Step-by-Step Guide for the Modern Angler

by -

Messrs. Farlow's and Hardy Brothers in conjunction with Scientific Anglers Inc., of America

PRICE

3/6

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PUBLISHED BY
FARLOW'S and HARDY BROS. (ALNWICK) LTD.
and Printed by
H. C. Coates & Son, Alnwick, England

FOREWORD

By CAPT. T. L. EDWARDS

The angler cannot catch fish unless he places the lure, whether fly, spinner or bait, in a position which makes it visible to the fish. This is known as "presentation"; the method of presentation is termed "casting".

Casting, in practice, is the technique of manipulating the angler's rod and line. The better the casting technique of the angler, the more adroit and consistent his presentation; and the more likely he is to catch fish.

Presentation calls for three qualities: ability to drop the lure with the greatest possible accuracy over the point where a fish is likely to be; ability to drop the lure at the greatest possible distance; and ability to control movement of the lure, either sunk or on the surface, in such a way that its action is similar to that of the natural food of the fish.

The main requirements of the angler, based on these points, are that his casting method shall be correct; and that the tackle he uses shall be the best for its purpose. The game of competitive casting is the only absolute guide to these angling qualities but it is too exacting a game to attract the majority of regular anglers. Their solution to indifferent presentation of the lure is two-fold. First, they must obtain a measure of instruction from a good competitive caster; and second, they must obtain the best available tackle for the purpose required. The only means of obtaining such tackle is from makers such as Hardy Bros. and Farlow's, whose tackle design is based on the findings of expert casters by top World standards.

The second of these solutions, the selection of correct tackle, is more important than the first. No matter how inexperienced the angler, continual use of the correct tackle will **ultimately** cause his casting to approach a standard which he would have achieved far more quickly under expert tuition.

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Scientific Anglers, Inc., Messrs. Farlow's and Hardy Brothers gratefully acknowledge the constructive criticism and guidance of many of the world's top fly casters and fly fishermen, without whose interest and help this guide to modern fly casting could not have been produced.

Tackle

The essentials for fly fishing are a rod, reel, line, casts or leaders and flies. There are many other accessory items which are helpful or convenient, such as waders or boots, creel, fly box and landing net, but only those listed in the first sentence are essential.

Fly rods, unlike those for spinning, have the reel seat below the hand. They have one or two rings near the butt, and snake or full open bridge rings distributed along the remainder of the rod to the top. Most trout fly rods are between 7′ and 10′ long and most of them are made from either built cane or glass fibre.

Fly reels should be as light as possible, consistent with strength. A click check or drag prevents the line from over-running. Small reels are used for trout and larger ones for sea trout and salmon; the size depends on the line capacity needed. Fly reels are obtainable for use with either the left or the right hand.

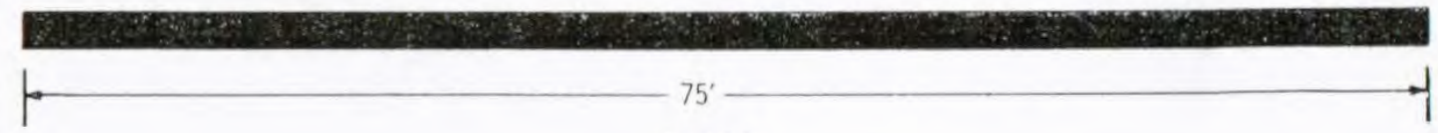
All Air Cel and Wet Cel lines are coated to give them weight, to make them float or sink as intended, to keep them from absorbing water, and to make them smooth. Of these, weight is the most important.

There are two types of fly lines in common use—floaters and sinkers. Floating fly lines are used for fishing dry flies, and for wet flies and nymphs when these latter two are to be kept near the surface of the water. Sinking fly lines are used for fishing wet flies and nymphs deep, and, in general, where it is desired to fish a fly more than a few inches beneath the surface of the water.

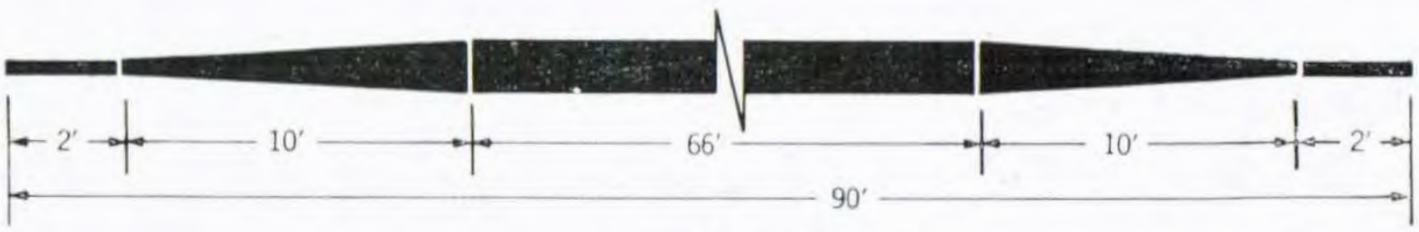
In addition, there are four kinds of fly lines as distinguished by their design. Level lines are of the same diameter from end to end, and they have the advantage of economy. Double-tapered lines are of the same diameter throughout most of their length, but are tapered to a smaller diameter at each end. The tapers are usually about ten feet long. They permit gentler delivery of the fly than a level line. Also, after one taper wears out, the line can be reversed, so a double-taper is really two lines in one.

Weight-forward lines have a taper, a heavy belly section, a short back taper, and then a length of smaller diameter running, or shooting line. They permit longer casts than either a level or double-tapered line. The fourth kind of fly line is called a shooting taper. It is only thirty feet long, usually of the sinking type, and corresponds to the belly and front taper of a weight-forward line. Instead of having a rear taper and light running line, however, shooting tapers come with a loop at the rear. This loop is tied to monofilament shooting line, or the new floating shooting line, which take the place of the light running line. Shooting tapers enable a skilful caster to cast farther than any other kind of line.

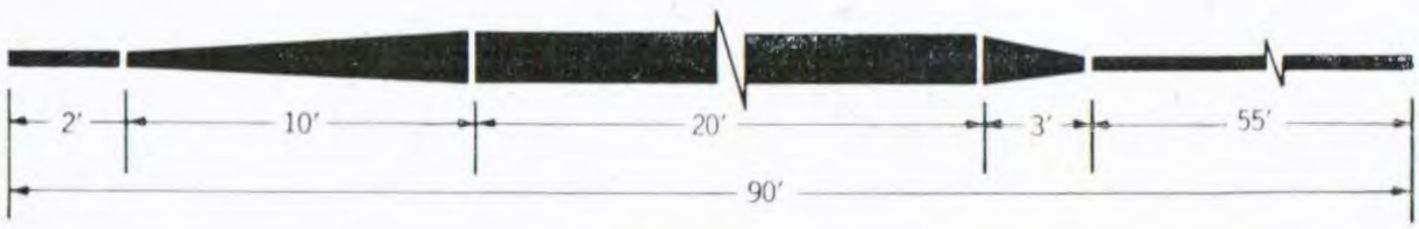
Diagrams of Typical Fly Lines



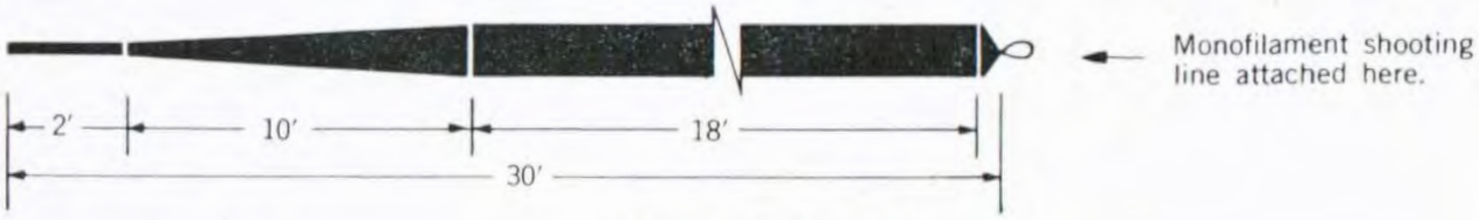
LEVEL



DOUBLE TAPER



WEIGHT — FORWARD



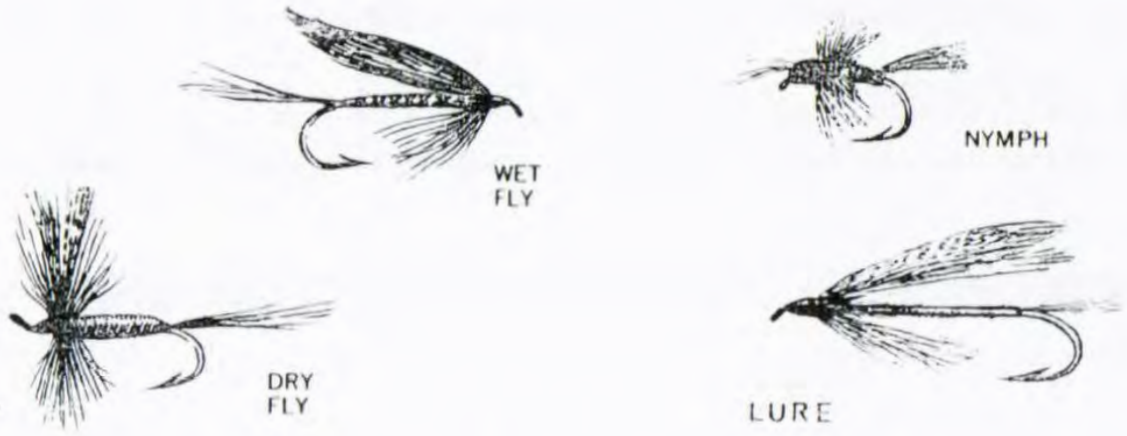
SHOOTING TAPER

The four types of fly lines—level, double taper, weight-forward and shooting taper.

Casts or leaders are generally about nine feet long and are made of monofilament. They may be either tapered—heavy at the butt, or line end, and light at the point, or fly end—or level. They serve two purposes: First, they are less visible than the line and consequently less likely to be seen by the fish. Second, being finer than the line, they permit the fly to drop to the water gently. Sometimes a fly that splashes down too hard scares the fish.

Most fly fishermen use tapered leaders either $7\frac{1}{2}$ or nine feet long, depending on the clarity of the water, the wariness of the fish, and the size of the stream. As a general rule, heavy (strong) leaders are used with big flies; light leaders with small flies.

With salmon flies, the larger the fly, the shorter should be the leader; and vice versa.



Four types of flies are used for trout — dry flies, wet flies, nymphs and lures.

Dry flies are tied with the hackle at right angles to the hook shank. They are meant to float and are fished only on the surface of the water.

Wet flies are tied with the hackle angled back towards the bend of the hook — the wings, if they have wings, angled back similarly, and are fished beneath the surface of the water.

Nymphs are also fished beneath the surface of the water; they imitate the aquatic stage of various stream insects, and may be used when the trout aren't rising to the surface.

Lures are fished somewhat like wet flies or nymphs but are usually pulled through the water more rapidly to represent small fish.

Your first fly line should be a floating type such as Air Cel or an Air Cel Supreme. If you must economise, get a level line; if not, a double taper. You will want a Wet Cel Sinking line when the fish are feeding near the bottom, but for the time being the floating line would be a better choice. Remember, it is most important to obtain the correct line weight for your rod. If in any doubt, consult the rod manufacturer or your dealer.

Assembling the Tackle

The first step in assembling your new outfit is to put the line on the reel. Directions for doing this properly are given on the leaflet in the box with your new Scientific Anglers' Air Cel or Air Cel Supreme.

Although some fly fishermen wind with the left hand, the conventional—and preferred—method is to wind with the right. We suggest you start in this way; if you want to change later, you can.

In order to put the line on the reel properly, hold it in your left hand with the handle to the right and turn the handle in a clockwise direction—same as if you were tightening a bolt. Spool the line evenly with the thumb and forefinger of your left hand.

For a faster retrieve, the spool should be nearly full. If it isn't, splice braided terylene or nylon of 12-20 lbs. breaking strain to the end of the fly line and keep on winding until it has built up to within about a quarter of an inch of the edge of the side plates. Then reverse the two lines so the fly line is on top. (Note: Be careful not to twist the fly line in the process, and remember with a weight-forward line the belly, or heavy portion, goes on the reel last.)

This line under the fly line is called backing. In addition to filling the spool, it enables an angler to land big fish that make long runs.

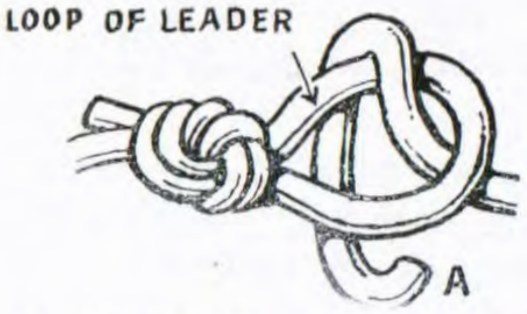
Assemble your rod by holding the butt, or lower section in one hand, the tip section in the other. Slide the ferrule (joint) together so that all the rings are in line. With a three-piece rod, join tip and middle section first. If the rings are not in line, don't twist the rod; pull the ferrule apart and reassemble it to straighten them. Always hold the joint and not the rod.

Now put the reel on the reel seat. For right hand wind, the handle should be on the right with the reel below the rod and the line should come off the outside (away from the rod) of the spool. Put the line through the reel's line guard if it has one. Tighten the rings down over the base plate of the reel until it is firm.

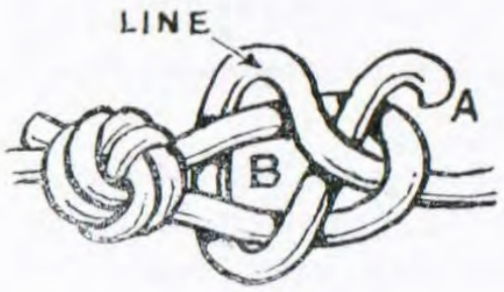
Now put the rod butt and reel on the floor or lawn (making sure that there is no sand or grit about), and pull out about fifteen feet of line. Starting with the ring nearest the butt, pass it through each in turn and pull the slack out of the end ring. (Many rods have a small ring above the handle. This is called the "keeper" and you hook your fly on it while walking from one pool to another. The line doesn't go through it.)

The next step is to attach the butt of the leader to the end of the line. There are a number of ways of doing this, but for the time being we'll stick to the simplest satisfactory knot, which is tied as follows:

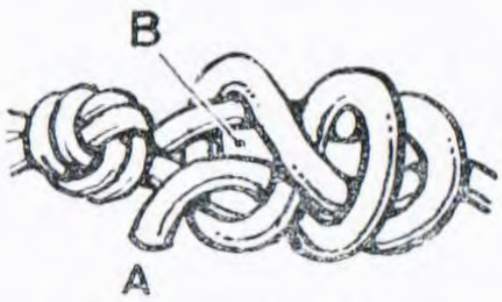
THE TUCKED SHEET BEND



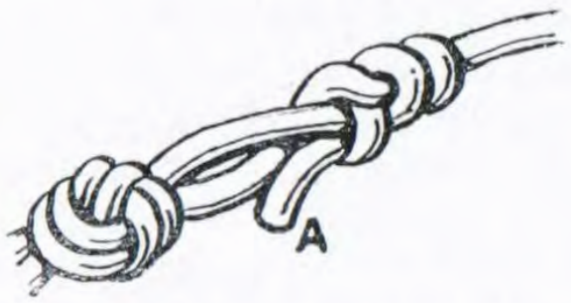
1. Pass line A through, over and under the leader loop as shown.



2. Pass line A under itself to form a loop B.

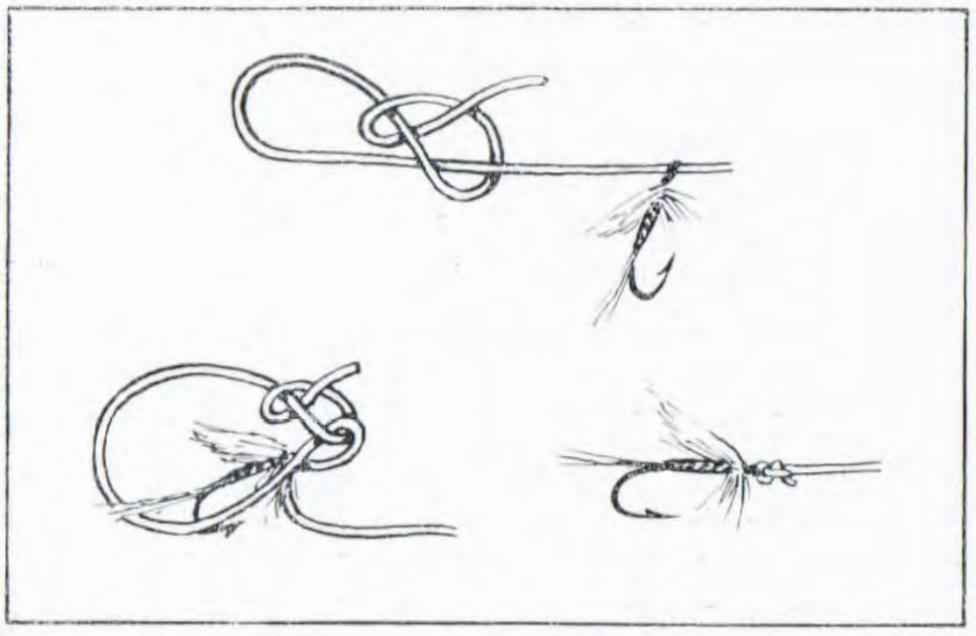


3. Pass line A over itself and through loop B.



4. Pull line A tight holding its other end firm.

The final step in assembling your tackle is to tie the fly to the point, or small end, of the leader. Here again, there are several good knots, but we'll use the simplest and easiest to tie.



The turle knot

Pass the end of the leader upwards through the eye of the fly (or downwards in the case of wet flies) and draw the fly well up the leader to be out of the way. Make a running loop with the end of the leader and draw the knot **nearly** tight; pass the fly through the loop thus made and draw tight with the knot on the upper side of the neck of the hook. Take care to keep the wings and tackle fibres of the fly clear of the knot when tightening into position.

Your tackle is now properly assembled and you are ready to start casting. We have discovered by teaching many beginners to fly cast, however, that they master the fundamentals much more quickly if they understand the principles involved. Consequently, the next section of this booklet is devoted to the mechanics of fly casting. Given a clear picture of what must be done to cast a fly—and how it has to be done—the actual performance comes much easier.

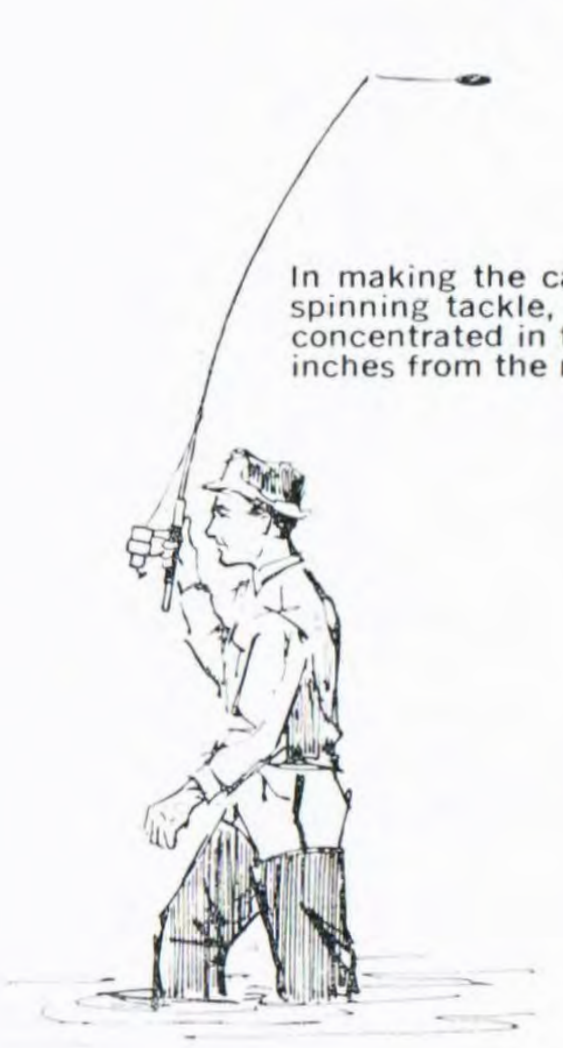
The Mechanics of Fly Casting

Unlike all other kinds of casting, in which the weight of the bait or lure pulls out the line, in fly casting it is the weight of the line that is cast. You actually cast the line; the fly just goes along. Without the weight built into the line, fly casting would be impossible.

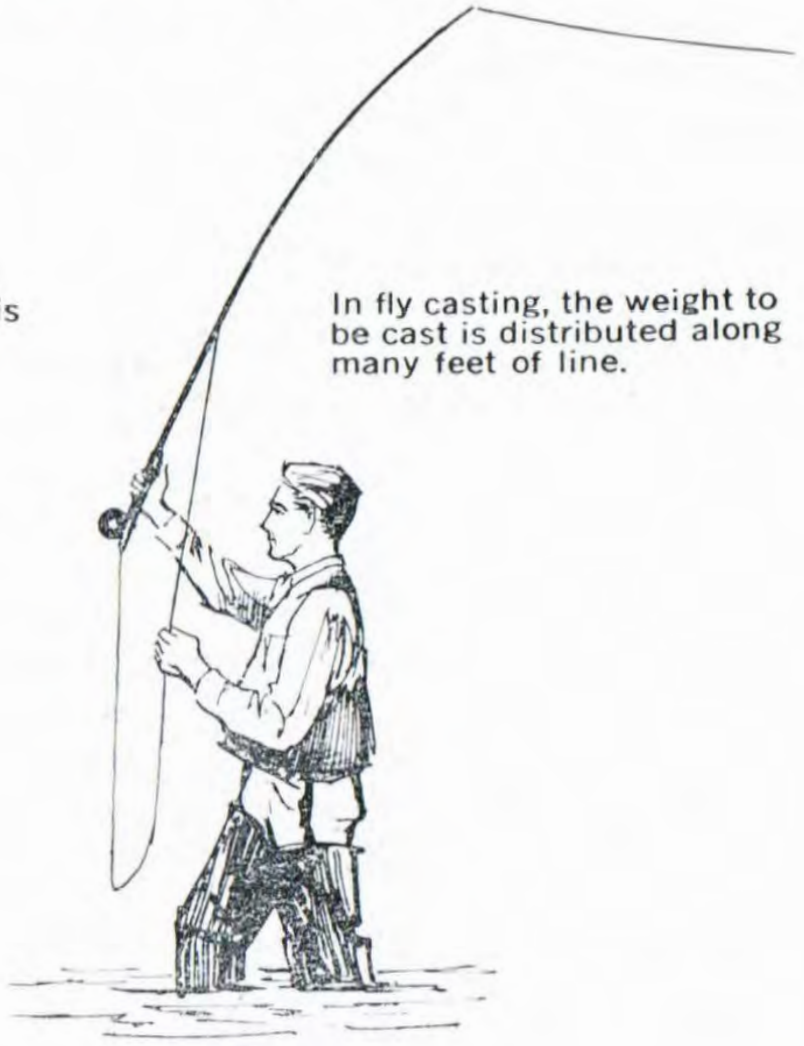
In casting with spinning or bait-casting tackle, you swing the rod back, then flip it forward to send the lure on its way. The energy you furnish is applied through the rod to give the lure speed and, other things being equal, the faster it starts, the farther it will go.

This is also true of fly casting, but there is one important difference; instead of having all the weight concentrated in one small lure a few inches from the rod tip, in position to flip away like an apple off the end of a stick, in fly casting the weight is distributed along all the line past the rod tip.

Start of cast with fly and spinning tackle



In making the cast with spinning tackle, all the weight is concentrated in the lure a few inches from the rod tip.



In fly casting, the weight to be cast is distributed along many feet of line.

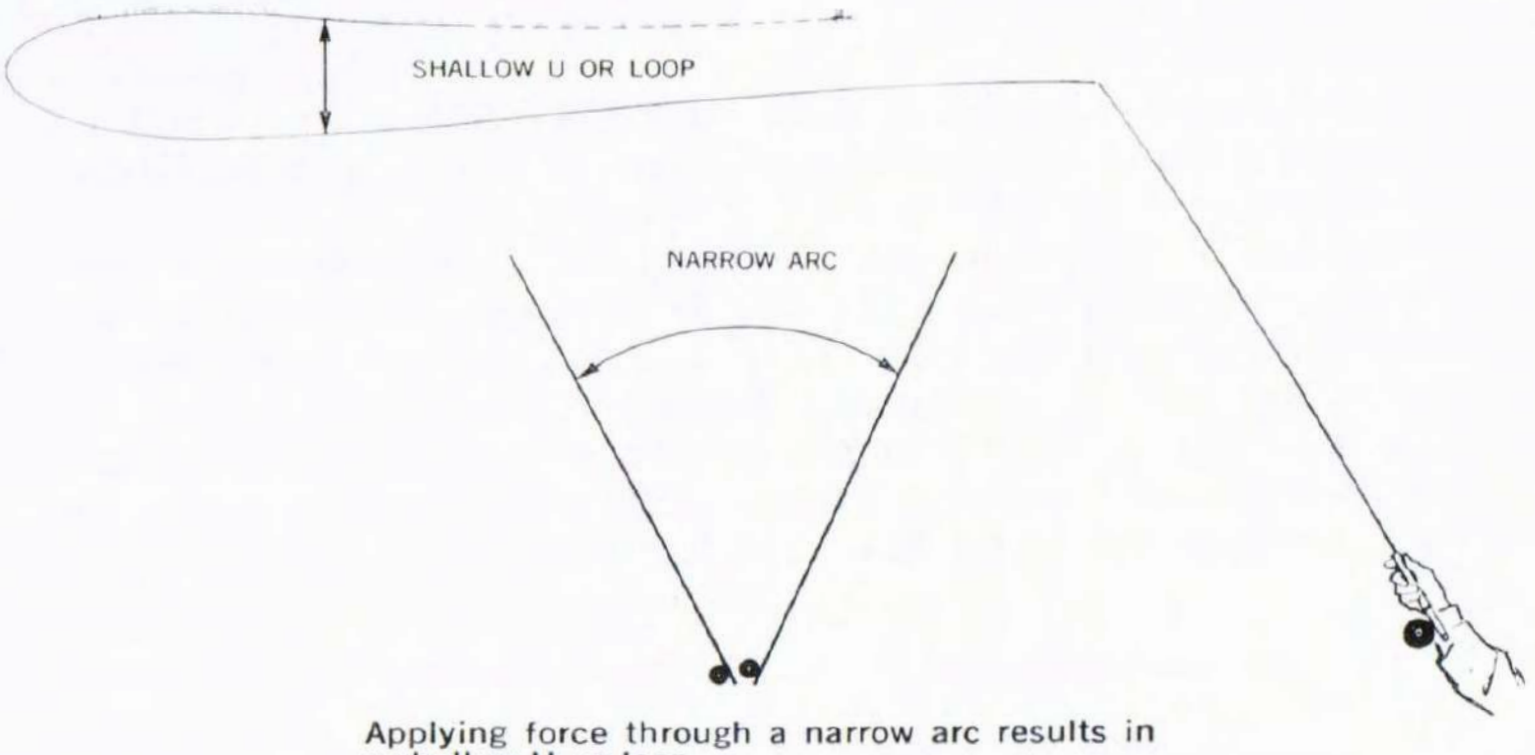
In order to utilize the energy supplied by the caster, force must be applied by the rod in a straight line for a sufficient distance to give the fly line the speed, or momentum, that will carry it out over the water and deliver the fly. Contrary to the popular conception, the tip of the fly rod does not travel in an arc during the interval when the cast is being made. It travels in a straight line. If it did not, the line would sail out in any direction like a scrap of rubber that sometimes flies off a tire when an automobile is travelling at high speed.

Now it becomes apparent that in order to deliver energy to the fly line and send it on its way, the line must be in the proper position. The spinning lure is near the rod tip; the fly line must be straight out behind the tip, directly in line with the direction the cast is to go. Getting the fly line into this position is called making the back cast. The back cast always precedes the forward cast and is essential to it.

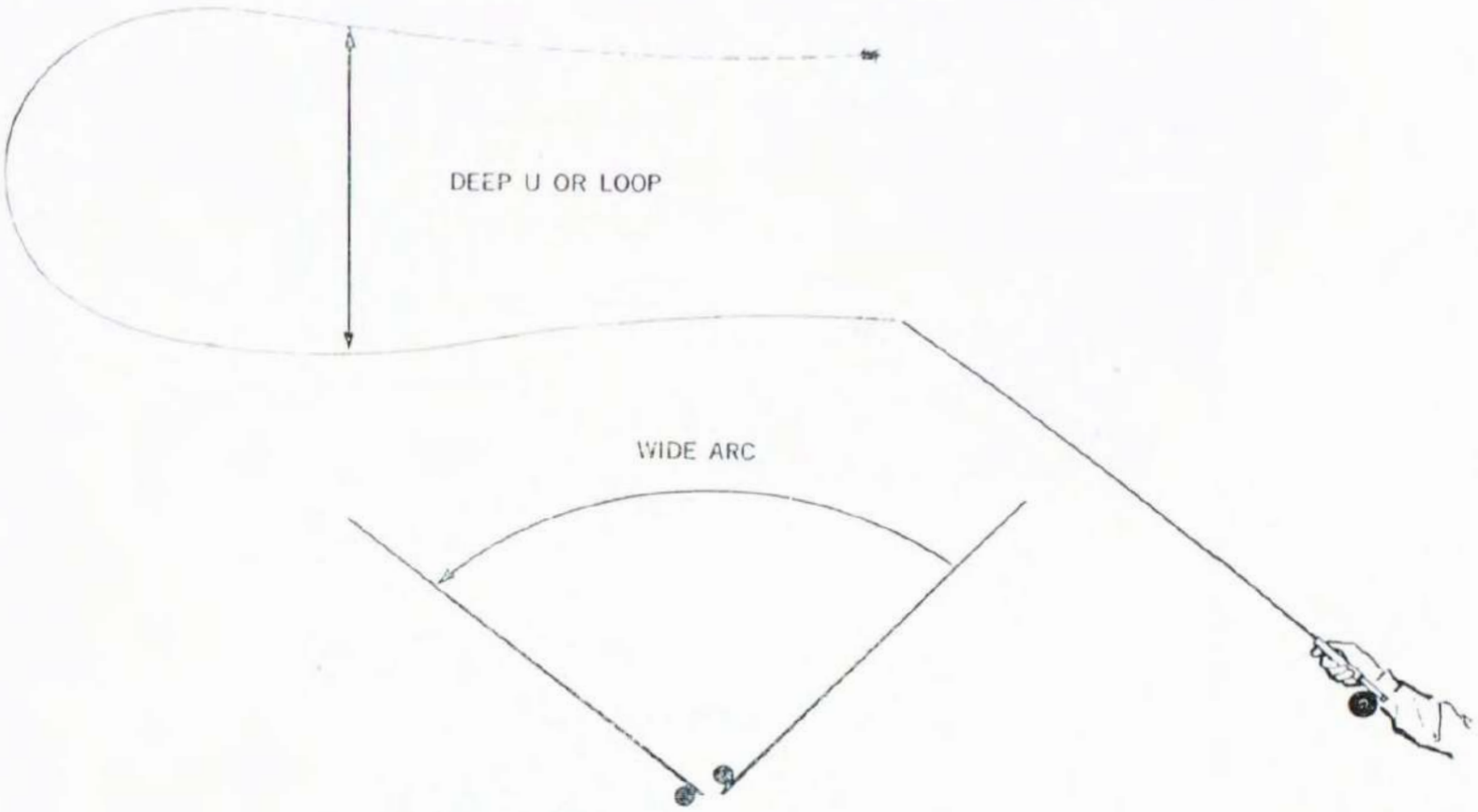
There is still another difference between fly casting and any other kind. Whereas a lure goes out like a bullet, pulling the line behind, the fly line always rolls forward in the shape of a U tipped over on one edge with the closed end ahead. One end of the U is the fly; the other is the rod tip. If you were to cut the line just as you made a cast so that it flew out freely, like a lure, it would sail through the air in a crazy tangle and land in a heap. The resistance of the line held in the hand or slipping through the rings causes all the line behind the rod at the time power was applied to flow through the tipped-over U. In a properly executed cast, the energy is completely expended when the line has gone through its U. It straightens above the water, and then drops.

The direction in which a cast goes, whether it angles right, left up, or down depends solely on the direction in which force is applied while the cast is being made—after the line was put into position to receive this force by a proper back cast.

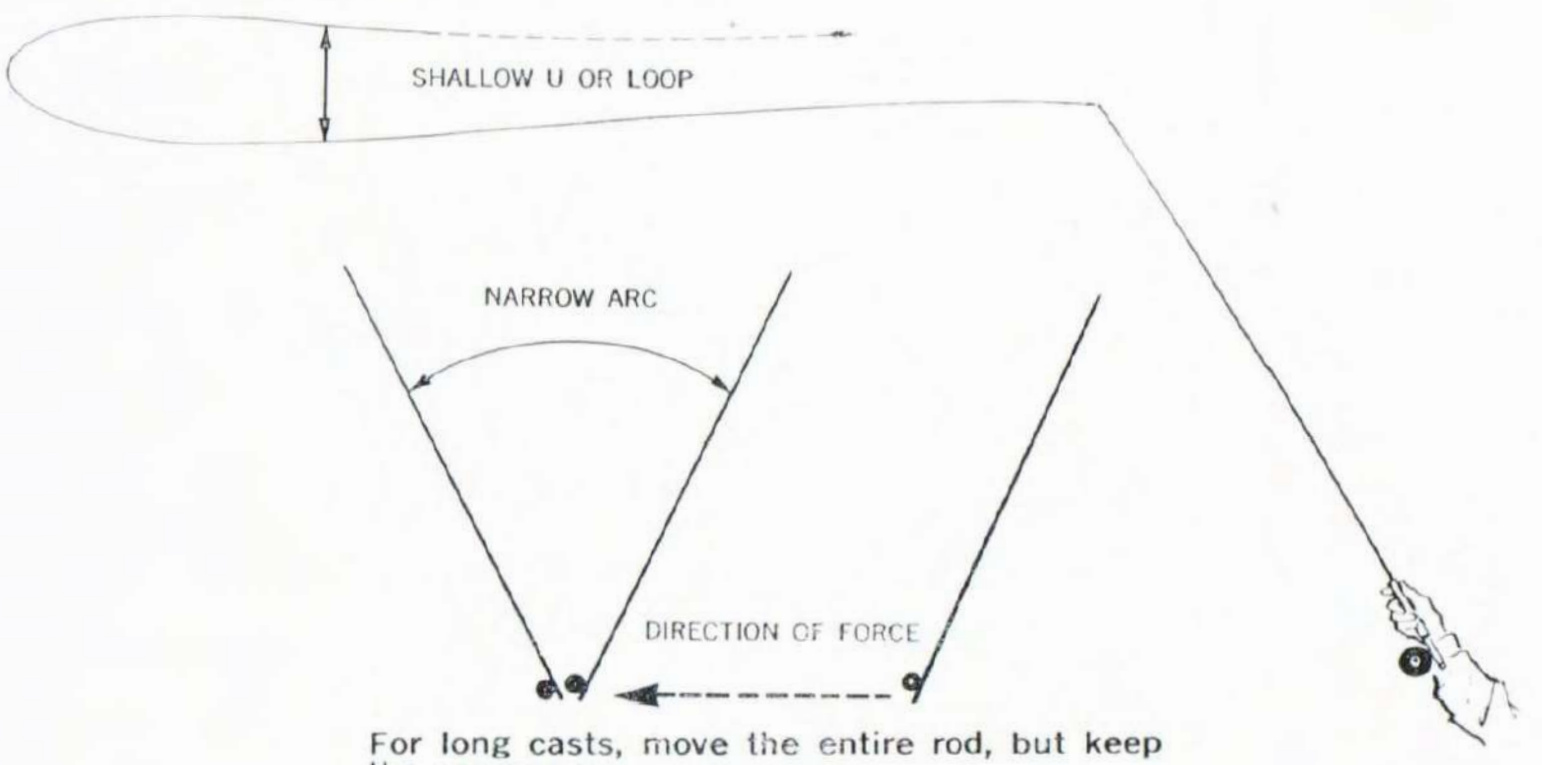
The depth of the U is controlled by rod movement. If the rod moves through a wide arc, the U will be deep; if it moves through a narrow arc, the U will be shallow. For the best control, the best accuracy, and the most distance, the U, or "loop" should be shallow. A shallow loop and maximum distance are achieved by moving the entire rod. This permits applying force through a greater distance, yet doing it in a straight line with a narrow arc of rod movement.



Applying force through a narrow arc results in a shallow U, or loop.

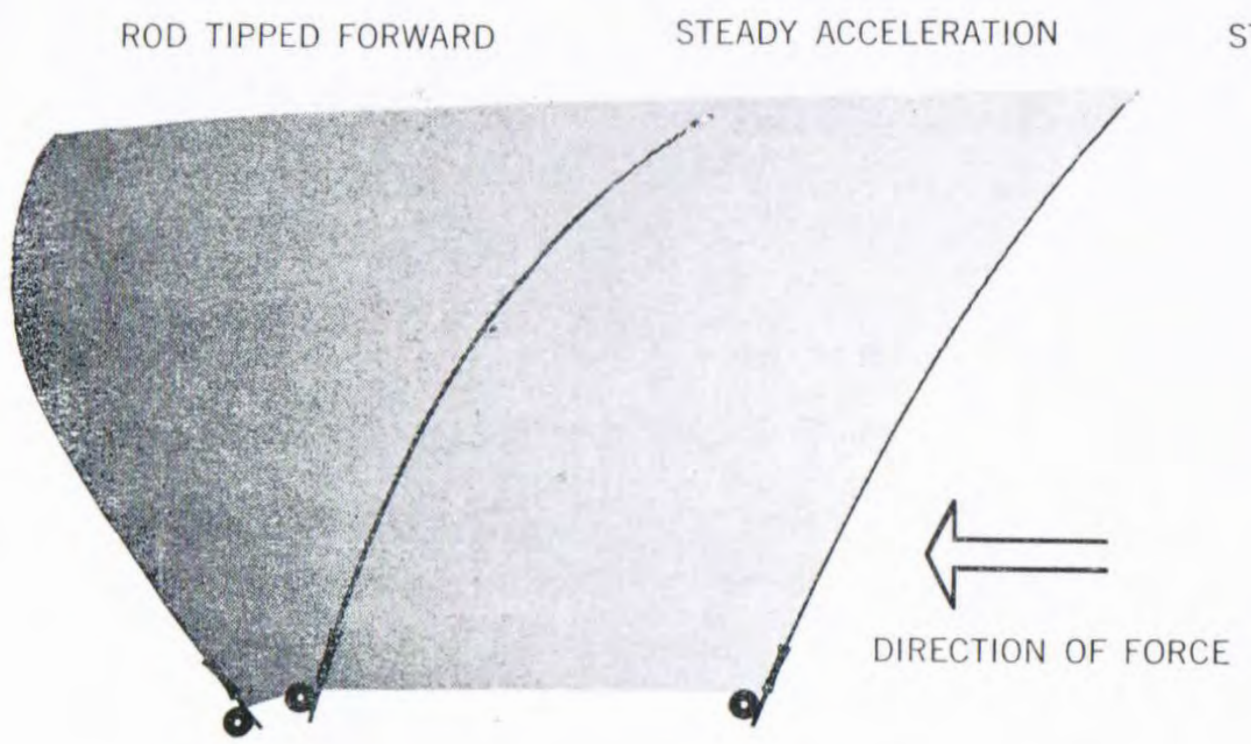


Applying force through a wide arc results in a deep U, or loop.



For long casts, move the entire rod, but keep the arc narrow.

The proper application of force by the rod to the line in making a cast is a rapid acceleration from fast to faster, with maximum speed achieved by tipping the rod forward with the wrist at the conclusion of the full-length movement. All beginners err by waving the rod gently back and forth. It is essential to bend the rod against the weight of the line to make any cast, and while extreme rod speed and a pronounced tipping forward just before the release of the forward cast are necessary only for long distance, the principles of a properly executed cast are the same whether the fly is to touch the water 30 or 100 feet away.



Power application on forward cast

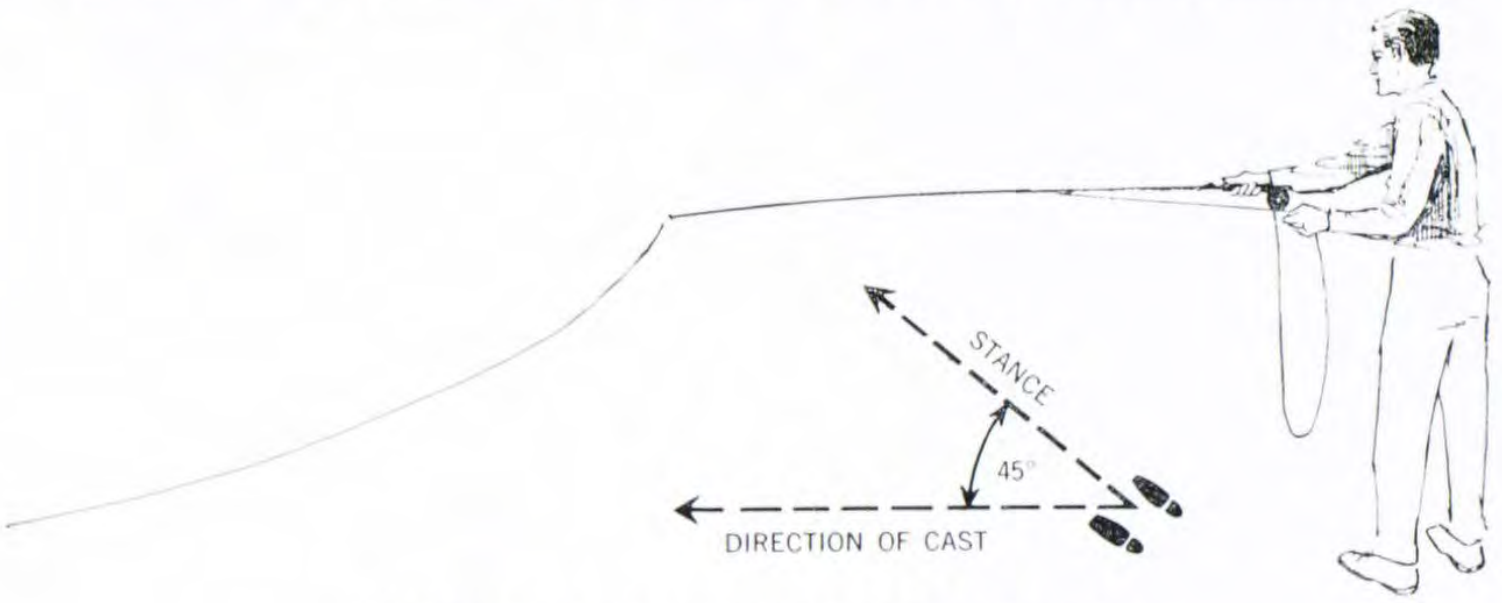
Casting—The Start

The best place to begin fly casting is on smooth-cut grass. You need an open space about eighty feet long, and you'll stand in the middle of it. Lay the assembled outfit flat on the grass with the reel handle up and walk away from it with the fly until you have pulled about thirty feet of line out of the rings.

Hold the rod pointed down the line toward the fly. Your grasp of the grip should be firm, but not tight. Most good casters extend the thumb toward the tip on top of the handle—the side opposite the reel. Rings and reel should be down. Hold the line firmly in your left hand between the reel and the butt ring.

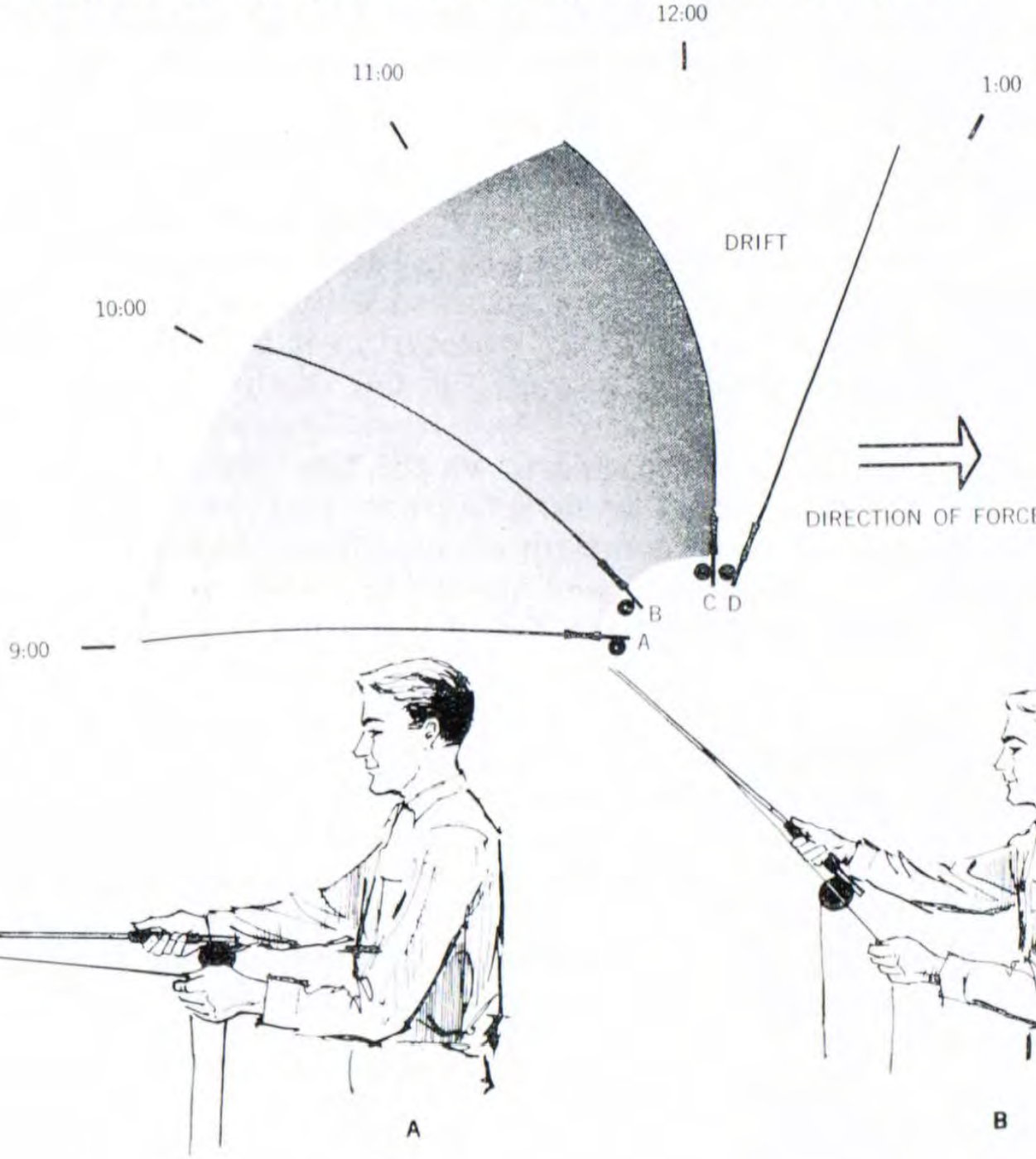
Your feet should be separated a comfortable distance, both quartering to the right. In other words, instead of facing squarely toward the line stretched out on the grass, which is the direction you're going to cast, your feet should be at about forty-five degrees from it. (This is written on the assumption you're right-handed. A southpaw would reverse the angle.) You are about to make a back cast and the reason for standing in this position is so you can watch the line over your right shoulder.

You are standing angled to the right, with your right elbow about three inches in front of your belly, forearm and rod pointed straight down the line. Your wrist will necessarily be bent down. It will remain in this position until the back cast is nearly made. Your left hand, holding the line, should be out towards the handle.

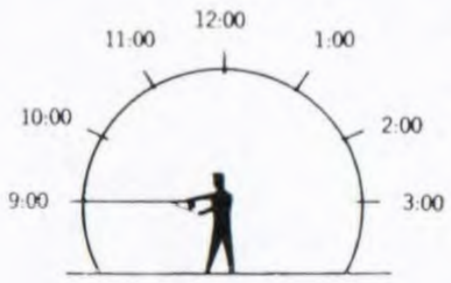


Correct position in which to practise casting

The back cast is made with the elbow and shoulder; the wrist remains locked in the position previously described. Start the line coming toward you on the grass by raising the elbow to lift the



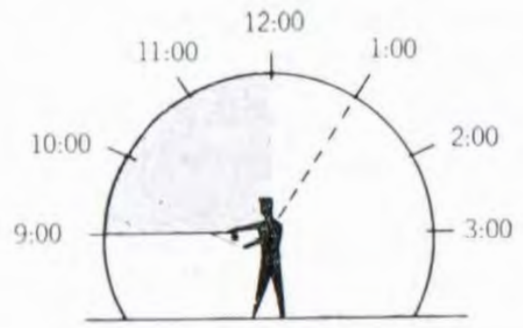
rod. The movement is up and back, accelerating rapidly. Hold the line firmly with your left hand; don't let any of it slip out through the rings. As the rod approaches vertical, pull the line down sharply about a foot.

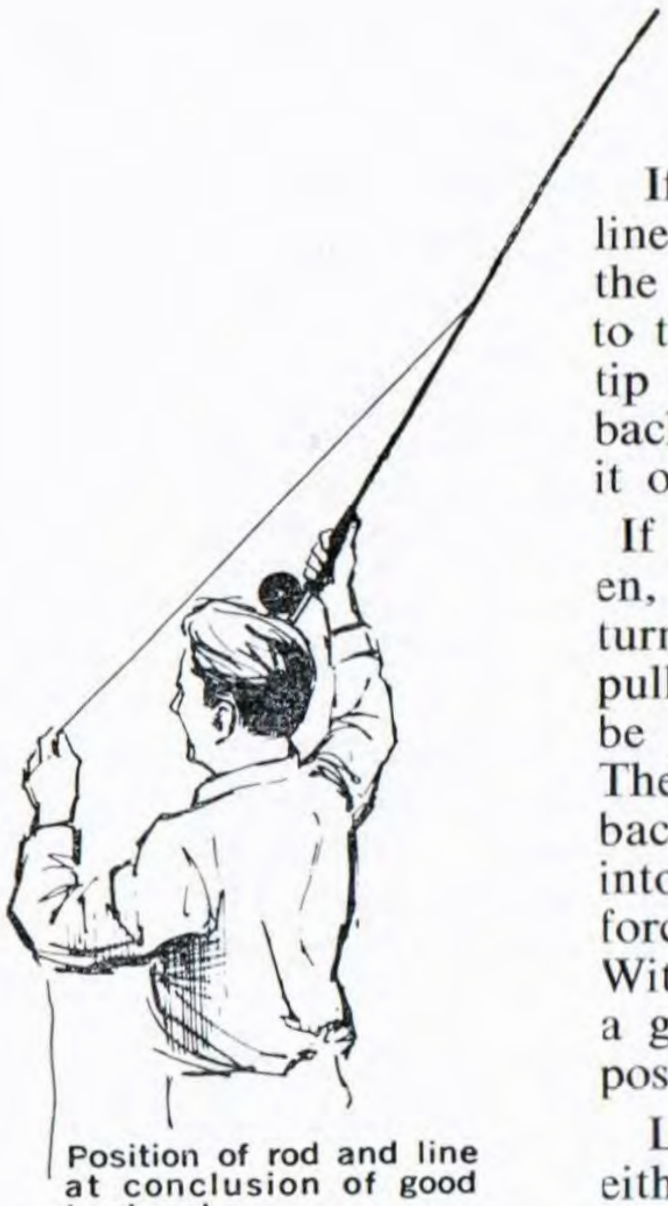


Now a word of explanation: In all the casting directions that follow, rod position will be described in relation to a clock dial with the rod corresponding to the hour hand. Nine o'clock will be in front, three o'clock, behind, and the line between them, horizontal. Twelve, of course, is vertical. Imagine a big clock facing you on a wall to the right.)

By the time the rod reaches the eleven o'clock position, the line will be coming toward you in the air. Bring the shoulder into play to move the entire rod back about eighteen inches, at the same time pivot the elbow until the rod is vertical and stop dead. The stop is accomplished by tensing your forearm, wrist and hand and then immediately relaxing.

The whole movement is brisk and continuous. Don't simply sweep the rod through the air; make it bend. The final part is to permit the rod to tip back to one o'clock by bending the wrist. This doesn't contribute to the back cast, however, but puts the rod into position to start the forward cast.

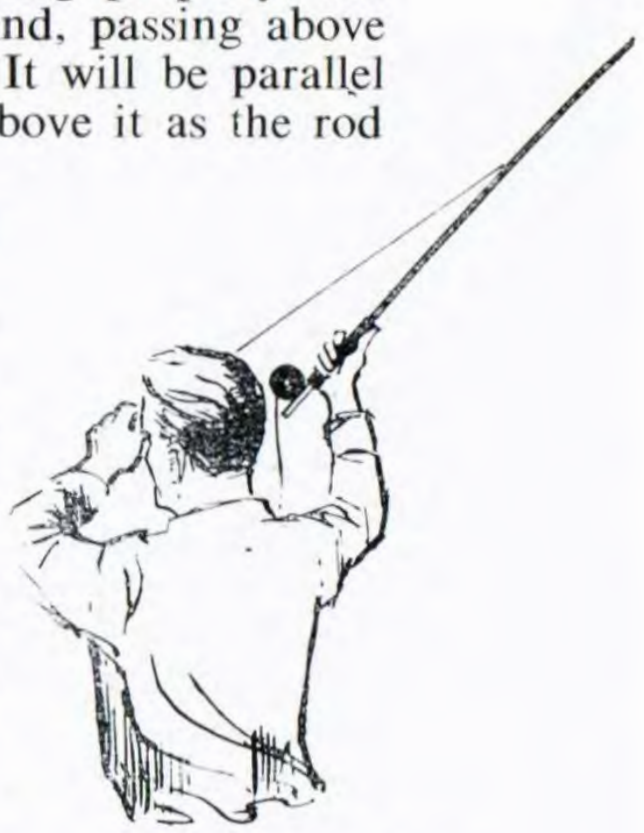




Position of rod and line at conclusion of good backcast.

If you have done everything properly, the line will fairly hiss out behind, passing above the rod top, and straighten. It will be parallel to the ground and as high above it as the rod tip at the conclusion of the backward movement. Watch it over your shoulder.

If the line doesn't straighten, let it fall to the grass, turn around, back away to pull out whatever slack may be present, and try again. The only purpose of the back cast is to put the line into position to receive the force of the forward cast. Without a good back cast, a good forward cast is impossible.



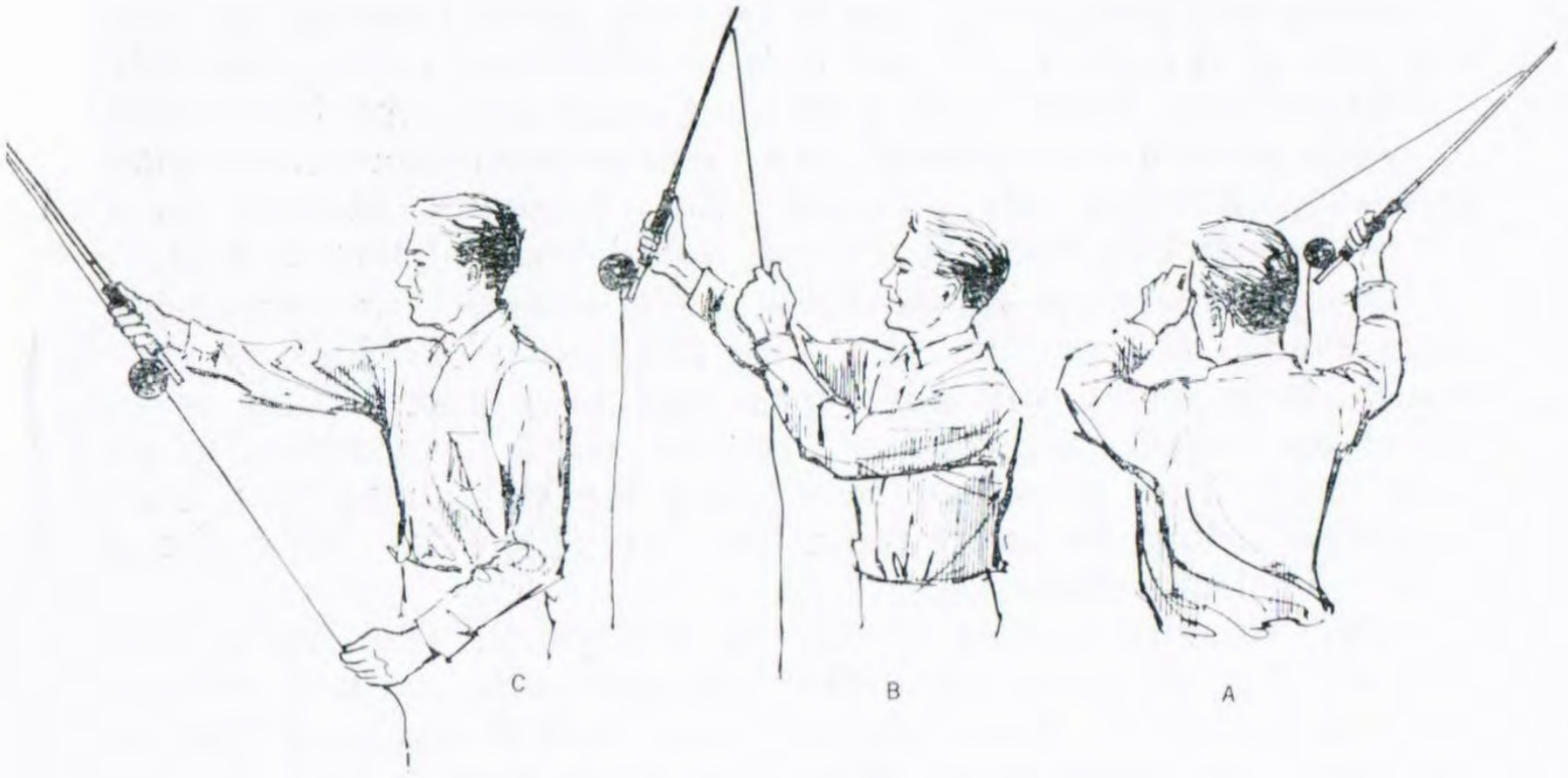
As the line straightens on backcast, raise left hand holding line so it will be in position for start of forward cast.

Let's assume, now, that either on the first attempt or one that follows it, the line goes out straight and true. While the loop, or "U", is turning over, raise your left hand, still clutching the line tightly, about a foot. This line will be pulled out through the rings ready for the forward cast.

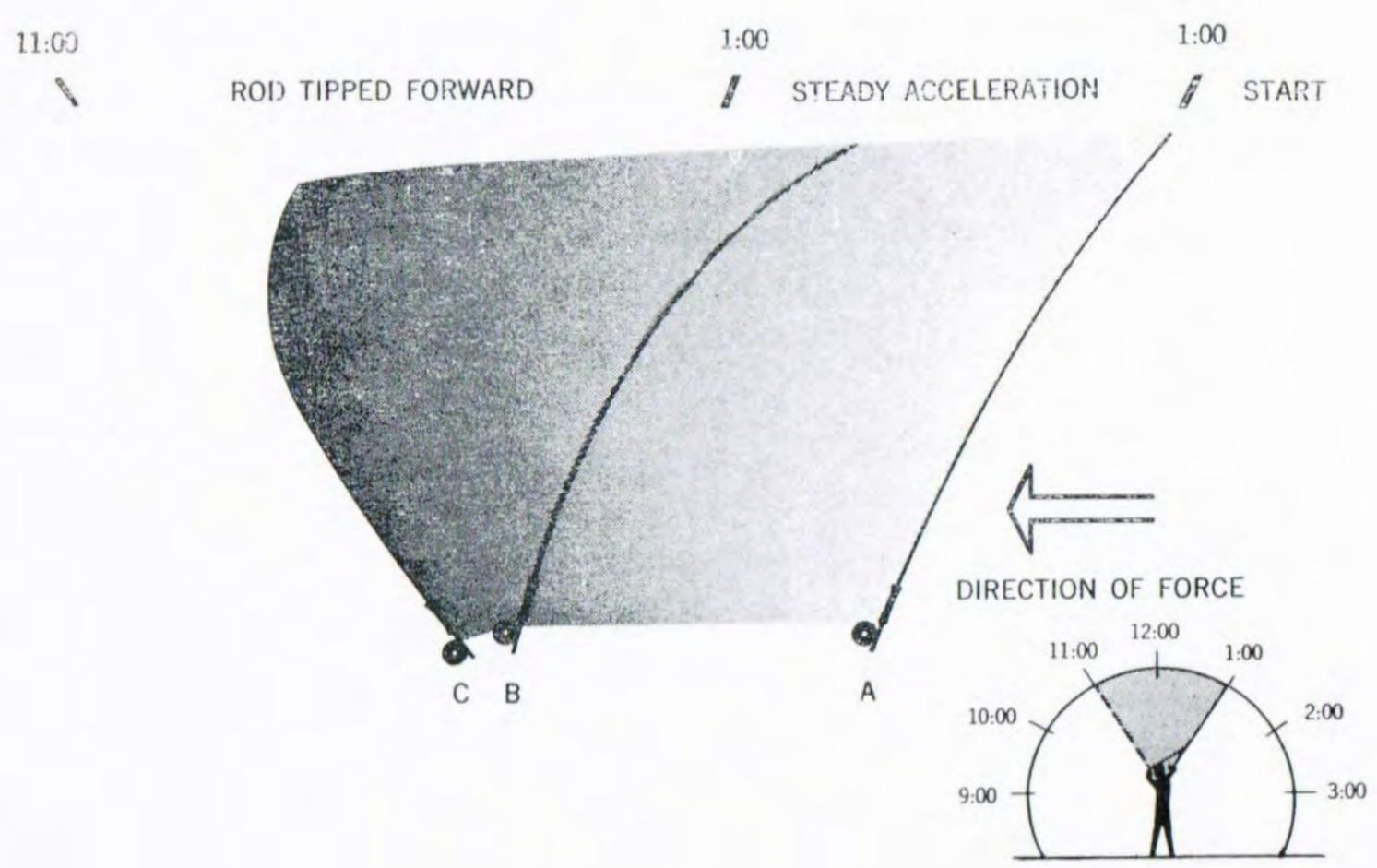
When you've made a good back cast, with the line out straight behind and tugging against the rod, you're ready to make the forward cast. Your right hand will be a few inches higher than your shoulder and somewhat behind it. Your left hand, holding the line, will be up toward the right shoulder.

Now, without changing the angle of your wrist, bring the entire rod forward, still in its one o'clock position. This is a full-arm movement by shoulder and elbow, made somewhat as though you were pushing a weight along a shoulder-high table. Accelerate briskly. Keep the reel above your shoulder; don't lower it.

As your arm approaches straight out in front, tip the rod forward to eleven o'clock by rotating your wrist and again come to a dead stop by tensing your arm muscles and then immediately relaxing. Learning to stop dead at the end of back cast and forward cast is the most important part of fly casting. The stop forces the tip over extremely fast, increasing the speed of the line. Simultaneously, lower your left hand—yes, it's still holding the line—about a foot. Again, the entire rod arm makes a brisk, pushing movement with the turn of the wrist coming at its conclusion. The rod stays in the same vertical plane, both back and ahead.



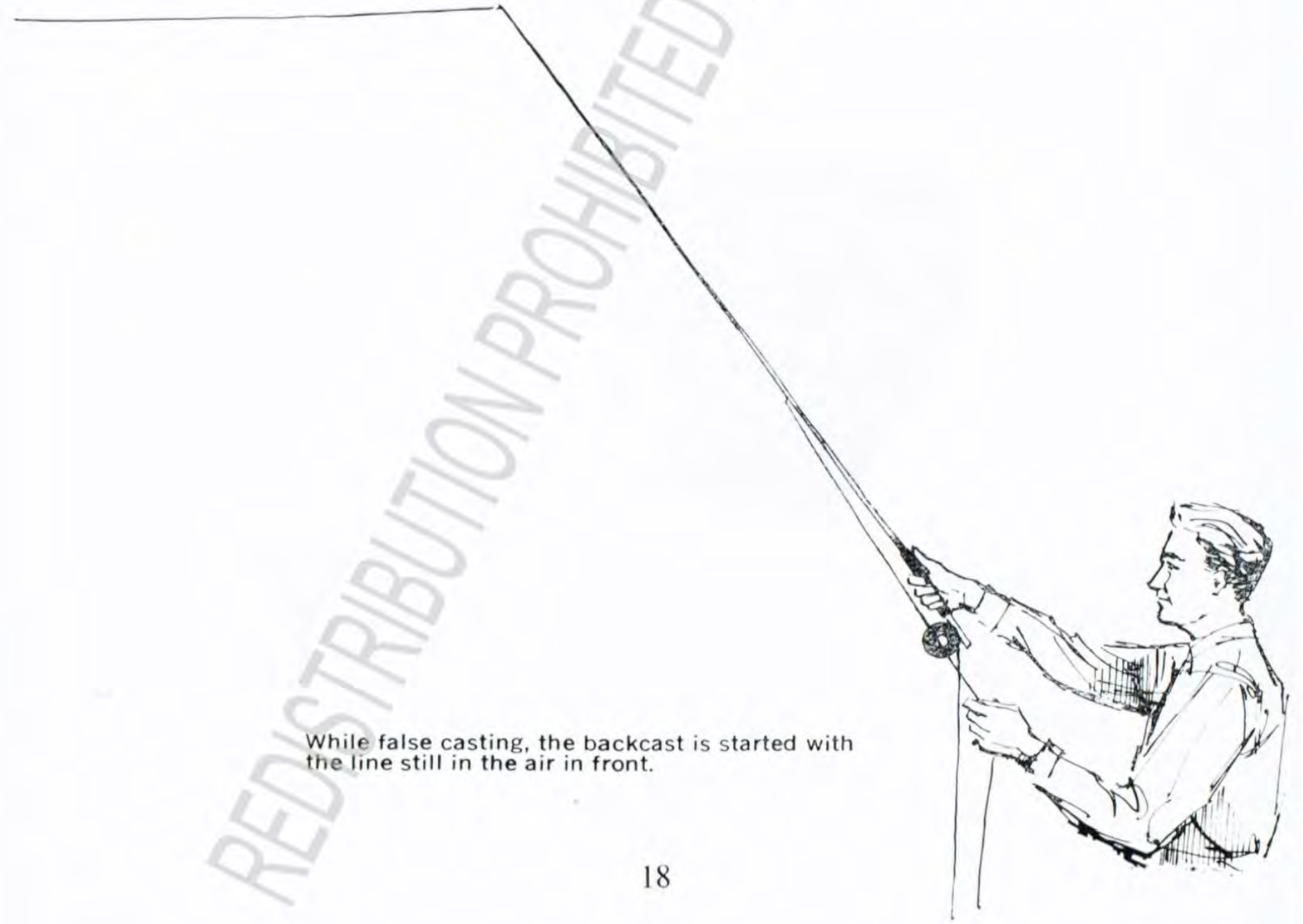
THE FORWARD CAST



Let the line straighten, then fall to the grass, lowering the rod and arm as it does. If the line fails to straighten, you've probably waved the rod, rather than pushed it smartly. If the leader and fly whip around and double back, you've used more force than necessary, although this is unusual for a beginner. Most of them act as though they thought the rod would break if they bent it.

After practising the forward cast a few minutes—and practising more than a few minutes at a time does no good—look at your leader. It probably will have from one to a dozen knots in it. These are called "wind knots", but the wind has nothing to do with them. They're caused by tipping the rod ahead first, then pushing it. Move the entire rod at the start of the cast; tip it ahead with a wrist movement last.

Don't attempt to cast farther at this point. Practise, resting occasionally, until you can make both the back cast and the forward cast perfectly. Remember, the line must straighten behind in the back cast before you can make a good forward cast. This is why we suggested standing so you could watch it. There must always be a pause while the loop unfolds and the rod drifts back. At first, you'll have to watch to tell how long to give it; later, this timing will become completely automatic. You won't even have to think about it, much less watch. And, of course, with the same power, it takes the same length of line just as long to straighten in the back cast as it does in the forward cast.



While false casting, the backcast is started with the line still in the air in front.

False Casting

You are now ready to start false casting, so called because the fly doesn't touch the water (in this case the grass) on the forward cast. We false cast to work out more line, to change direction, or to whip the water out of a dry fly so it will float.

Make the back and forward casts just the same as before. When the forward cast straightens out, however, don't let it fall to the grass. Instead, start the back cast immediately from eye level.

You will find that this is actually easier than starting the back cast off the grass. Don't let the rod drift down farther than ten o'clock, however. (You lowered it by drifting to the horizontal when the line dropped to the grass.) Other than this, the rod movements are the same—up and back for the back cast; out and ahead for the forward cast. Watch your back cast until you can make it straighten properly every time and until timing the pause required for it to do so becomes automatic.

Now, the beginner's most common fault, next to waving his rod rather than accelerating it briskly, is to let line slip out through the rings at the start of both the back cast and the forward cast. Guard against it. If you hold the line tightly in your left hand and pull a little each time, as we advised, this won't occur.

You see, the line speed that makes casting possible comes from energy supplied by the caster through the rod. If you permit the line to slip out through the rings while the rod moves, no energy is transmitted to the line. Consequently, it doesn't go anywhere.

Right now, the devil is rearing his ugly head. You may not recognize him because he's a sly rascal, but he's already whispering in your ear. He's saying: "Let out a little more line. Let's see if we can't cast a little farther".

Don't do it! In fly casting, as in any other sport requiring muscular coordination, form is everything. If you achieve correct form first, long casts will come with virtually no effort. If you don't learn correct form, you will never be able to make them.

Instead of attempting to cast farther, continue practising with thirty feet of line past the rod tip. Actually, this thirty, plus an eight foot rod and a seven and a half foot leader, makes more than forty-five feet. You'll seldom want to cast a dry fly that far when you're fishing for trout. So you see, you're already casting far enough to catch fish, and in the long run perfect control at this distance will do you far more good than straining to cast twice as far.

About this time, you're likely to discover that your back cast is hitting the grass behind. This is caused by continuing the application of power too far back; you may actually be stopping your rod at three o'clock, even though you intend to stop it at twelve. Have somebody watch to check on this. And remember, if you keep your wrist stiff, you can't do it.

Working Out Line

You started casting by pulling line out along the grass from the rod tip. Now that you can false cast you're ready to forget this bother. Put the rod butt on the ground and pull six or eight feet of line from the tip. Pick up the rod and pull a yard of line off the reel with the left hand. Raise the rod quickly as though starting a back cast and this line will slip out through the rings.

You now have enough line out to start false casting. With less line, of course, it will require less power, but here again, the natural tendency for a beginner always is to use too little, rather than too much. Strip another yard or so of line from the reel, but hold it firmly while you make a back cast. On the forward cast, instantly after the application of power, let it go. It will shoot out through the rings.

Immediately strip another yard of line from the reel—while making the back cast—and release it on the next forward cast. This process is repeated until you have the required thirty feet past the rod tip. Actually, once you become proficient, you can feed line on both the back and forward casts and get it out to fishing distance very quickly.

All right, what to practise with thirty feet of line? First, simply false cast, resting every few minutes, until you're making every back cast and forward cast perfectly. Let an occasional forward cast fall to the grass as though you were actually fishing. Next, try for accuracy. Put a target on the grass and see how close you can come to dropping your fly on it. Try not watching your back cast to see if you've memorized the length of pause needed for it to straighten.

At this stage, you'll undoubtedly get some sharp cracks, like snapping a whip, and you may actually pop your fly off. This is caused by starting the forward cast too soon. Give the back cast a little more time to straighten out.

Before long, the tackle will no longer feel strange. You won't have to think about every part of each cast. Both hands will be doing their parts automatically — and correctly, too, if you've followed directions.

Control

It is now time to start mastering control, the all-important ingredient of good casting. Let's start by changing direction. Make a back cast in the usual way. Instead of bringing the rod ahead through the same slot in the air, as we have been doing, direct it at an imaginary "target" a few degrees to the left or right. Don't attempt to curve the path of the rod in its forward movement. Instead, from its farthest-back position, bring it straight toward the target.

If you haven't changed direction far enough, make another back cast and again bring the rod forward aimed straight at the "target". After awhile, you'll be able to change direction as much as forty-five degrees with one back cast, but don't attempt so much at first. Simply keep working around in whichever direction you want your casts to go, remembering always to bring the rod through its entire forward movement aimed directly toward the "target"—entirely in one vertical plane from start to finish.

Another way of changing direction, which we prefer, is to point the tip of the rod at the next "target", then lift the line with the back cast. This way the line is already aligned on the new "target". The line cuts the corner, but is then straight for the forward cast.

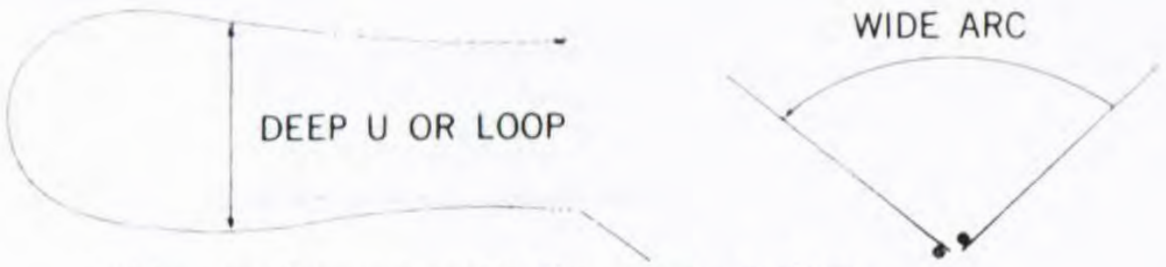
All this time, your tipped-over U's of the back and forward casts have been going out horizontally, the line straightening at the level of the rod tip and parallel to the ground. And if you've been following directions accurately, these U's have been rather shallow, too—possibly from eighteen inches to two feet between the top and bottom legs.

The depth of the loop depends entirely on the arc of the rod during the application of power. You should now be able to demonstrate this to your own satisfaction by moving the rod through a wider arc than we have suggested. This will form a deep loop. Then hold the rod to a very narrow arc. This will form a very shallow loop. Remember, the depth of the loop is not determined by the movement of the entire rod backward and forward, but by its angle at start and finish.

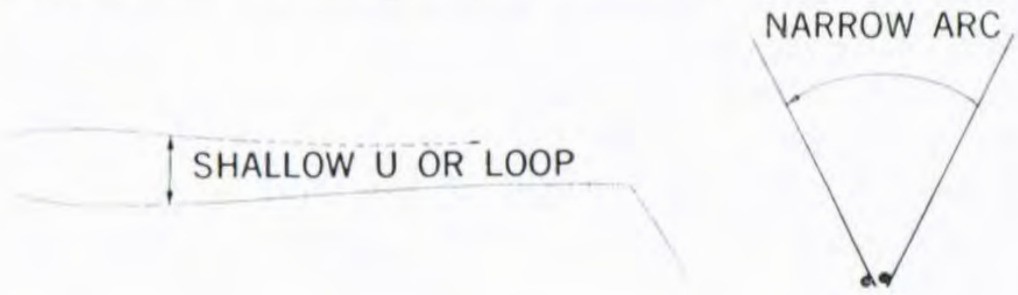
While a shallow loop is essential for long casts and better at all distances, only by knowing what causes a wide loop can an angler prevent it. All competent fly casters can cast a deep or shallow loop at will, but habitually use a shallow one.

After getting the hang of this, it will be easy to change the height of either the back or forward cast. Suppose you'd like to cast to a rising trout, but there is a tall bush a few yards behind,

In normal casting the arc of rod movement is from 11 o'clock to 1 o'clock.



A wide arc of power application causes a deep loop; a narrow arc results in a shallow loop.



For a high backcast, tilt the arc of rod movement forward.

For a low backcast and high forward cast, tilt the arc of rod movement backward.

just right to ensnare your fly. To make a high back cast, you simply incline the entire arc of rod movement forward. Arm and rod butt move up and back at a steeper angle; the tip starts lower and stops higher.

Now suppose that for some reason you want to make a low back cast and a high forward cast. (We once found some trout rising in a spot where we had to keep the back cast under a bridge.) This is done by tipping the arc of rod movement backward. Don't make the mistake of simply waving the rod back farther; this will throw your back cast to the ground and you'll lose control completely. Instead, start the back cast with the rod butt high and finish with it low; start the forward cast with the rod butt low and finish with it high.

Really, these things are exercises, like practising on the piano. They're well worthwhile, however, because they teach control through understanding. If you don't understand why a cast fails to go out properly, you can't correct it next time. Practice now, until you have perfect control, will save many headaches later.

The standard fishing cast at ordinary distances — say from twenty-five to fifty feet—is made with the arc of the rod movement inclined slightly forward, rather than perfectly vertical. This will cause the back cast to be angled slightly up; the forward cast slightly down.

It should not be tipped so far forward, however, that the fly slaps down hard. Instead, the forward cast should straighten about a yard above the water or grass. Then the rod is lowered as the line, leader and fly settle down. This is essential with dry flies; a good habit most of the time with all of them.

It's a good idea now to start practising over water. The pickup to start a back cast is a little, though not much, different, and you'll be able to tell at once whether your fly is slapping down too hard or settling down gently, as it should. If water isn't available, however, grass is perfectly satisfactory for the next step.

More Distance

If you've practised the preceding things as you should and have good control of your line at all times, the rest will be easy. You're ready to cast farther.

With your regular thirty feet past the rod tip, preferably lying on the grass or water out in front, strip another ten feet of line from the reel. Let it fall at your feet. Now make a back cast in the usual way, holding the line tightly and making the same foot-long pulls with your left hand. All the slack, the extra ten feet, is between your left hand and the reel. Make the forward cast. Just after tipping the rod forward at the peak of the power application, release the line held in your left hand.

It will shoot out through the rings. The tipped-over U, or loop, will go out through the air ten feet farther. It will then straighten and drop as you let the rod drift on down to horizontal. You have lengthened your cast ten feet by shooting line.

Practise this several times until you get the hang of it, stripping in ten feet of line each time to start. The critical point is timing the release. If you do it too soon, you'll kill the cast. If you do it too late, the energy of the cast will already have spent itself.

After you can shoot ten feet of line regularly, try twenty. You may need to put a little more power into the forward cast, but don't do this at the expense of the proper rod movement. Form is everything; brute strength won't get a fly out twenty feet. Remember always to bring the entire rod forward in its one o'clock position, then tip it ahead sharply and stop the butt of the rod dead at the conclusion of the forward movement.

Now, all this time you have been giving the line foot-long pulls with your left hand—one to make the back cast straighten out, the other as you tip the rod ahead at the conclusion of the forward cast. This has a name. It is called the double pull, or double haul, and is used by all tournament distance casters as well as by all anglers who require to make long casts. Its purpose is to speed up the line. The only difference between what you've been doing and what the tournament caster does is that he pulls the line much farther, thereby giving it extreme speed for maximum distance.

Casting the distance trout fly event, a tournament caster reaches up and back beside the handle, at the conclusion of the back cast. He keeps both hands high and close together as he brings the rod ahead in the forward cast. Then, just as he tips the rod forward

he pulls down hard and fast for five or six feet with the left hand, releasing the line at the usual time after the application of power. This puts a tremendous strain on the rod and imparts the highest possible velocity to the line.

This extreme pull isn't necessary for fishing. At ordinary distances the little, foot-long pull you're already using divides the work. (You'd have to work the rod arm harder if you didn't do it.) It gives you better control.

As you begin to cast farther now, you can pull the line a little farther and a little faster with your left hand. You'll be pleasantly surprised to discover—provided you stick to proper form—that it takes very little more power to cast sixty-five feet than it did thirty.

Now try something else. All this time we've been using thirty feet of line in the back cast. Try false casting twenty-five, then thirty-five. See if you can false cast forty feet of line and keep it up in the air above the rod tip. If you can do this and shoot an additional twenty, you'll be casting seventy-five feet — allowing fifteen feet for rod and leader.

You'll notice while false casting twenty-five feet of line that the rod feels stiffer. When you false cast thirty-five or forty feet, it feels softer, slower and less powerful. This is due to the difference in weight beyond the rod tip. You'd discover the same thing casting quarter-, half-, and three-quarter-ounce lures on one spinning rod. Obviously, each rod casts one particular weight best. The lure (or fly line) can be too light. Likewise, there is a maximum weight above which the rod cannot impart sufficient speed to send lure or line any distance at all.

Long Casts

You can only cast so far with a level or double tapered line. The length of line you can shoot is limited; so is the length you can false cast. You could go to a more powerful rod, but if you had one that would false cast fifty feet of line for long casts, it would feel stiff as a poker while fishing at the usual thirty feet.

The solution is to use a different type of line, such as a weight-forward Wet Cel. With this line, your back cast is always the same length, no matter how far you want the forward cast to go. You false cast only the heavy portion, or belly. The rear taper will be just out of the rod tip, but because the weight is concentrated in the first thirty feet of line, and also because the shooting line is smaller in diameter, you can shoot much more of it.

Weight-forward line.

Start by casting the usual thirty feet and letting it fall to the grass. Strip more line from the reel — forty or fifty feet of it, if you're optimistic. Now make a cast just as you have been doing it and release the line at the usual time. The fine shooting line will fairly sizzle out through the rings and you'll be surprised how far your fly will go — provided you didn't forget and rely on brute strength rather than correct form.

Casting the Shooting Taper Line

One day in 1946, two American fly casters, practising for the next national tournament, hit on the idea of attaching a length of conventional fly line to monofilament. False casting in the usual way until the fly line was out of the top ring, they released their casts and discovered to their amazement and delight that they were reaching about 20 feet farther than they had ever been able to cast before.

Equipped with monofil shooting line — so called because it "shoots" through the rings — members of their team swept the distance fly events at the tournament. By the following year, all casters in both trout—and salmon-fly distance were using it, and the old long-cast records were soon shattered.

Anglers in western America, who fish lakes for trout and large rivers for trout and steelhead (sea-run rainbows), were quick to see the advantages of monofil shooting line.

To them, long casts were all-important. With monofilament attached to a length of conventional fly line, they not only could cast farther than ever before, they could do it more easily and with lighter rods.

The typical rod for this work is either fiberglass or split cane, single handed, and about nine feet — never more than $9\frac{1}{2}$ feet — long. It normally weighs between $4\frac{1}{4}$ and $5\frac{3}{4}$ ounces and is moderately powerful — capable of casting a No. 10 (300-grain) line. A fly reel with 100 yards of backing, 100 feet of 20-lb. b.s. monofilament, and a 30-foot shooting-taper fly line complete the outfit. With this equipment, a competent caster can stand in water three feet deep and easily reach from 80 to 100 feet.

A great deal of experimenting preceded this standardization. At first, it was impossible to buy shooting-taper fly lines. Anglers cut one end off a double taper and spliced a loop to which to tie the monofil to the heavy end. All lengths from 15 feet to 50 were tried, and 30 feet was finally settled upon as the best. (The Scientific Anglers shooting-taper fly line is 30 feet long with a loop at one end and a taper on the other.)

Similarly, every imaginable size monofil from 6-lb. b.s. to 40-lb. was tried. Eventually, the majority of anglers settled on monofilament of about .020-.021 inch diameter as best — 18- to 25-lb. b.s., depending on the brand. Finer monofil tangles, while it is difficult to work the kinks out of the heavier weights. There is no significant difference in the length of cast that can be made with 10-, 20-, or 30-lb.

Rods, too, came in for their share of critical evaluation. The common error at first was to use too powerful a rod. Even with the heavier line that matched it properly, such a rod was too much for the average man; he didn't have the strength to flex it properly and attain maximum line speed.

Admittedly, starting at the same velocity, a 400-grain line will go farther than a 300-grain line. But most anglers can't give the heavier line equal speed, especially after several hours of fishing. In fact, some anglers are now using $8\frac{1}{2}$-foot rods of 4 to $4\frac{1}{2}$ ounces and find that these less powerful rods give them the maximum distance of which they are capable — 70 to 80 feet wading — with a minimum of effort. Of course, they also use lighter shooting taper lines, ordinarily a No. 9 of about 250 grains weight.

Another thing that came in for considerable experimenting was the attachment of the monofil to the fly line. The first thought, of course, was to splice them together. But eventually most anglers conceded that a loop, made of 40- to 50-lb. b.s. braided nylon line and spliced permanently to the shooting taper, was better. It passed through the rings, both casting and playing fish, without difficulty. In addition, it permitted the angler to realize the second

great — and, at first, unsuspected — advantage of the shooting-taper line: Tying the monofil to the loop with a clinch (half-blood) knot permits changing lines quickly and easily.

Scientific Anglers make shooting-taper lines in three densities, slow sinking, fast sinking, and extra-fast sinking, making it practical to work a wet fly or nymph at any depth the fish may be feeding, whether near the surface or 20 feet beneath it. In addition, some anglers cut shooting tapers from the ends of floating double-tapered lines to use where extremely long casts with dry flies are desirable.

Other things being equal, the faster a fly line is started on its way, the farther it will go. Consequently, the knack of distance casting is primarily one of imparting maximum velocity to the line. To do this, the technique must be altered and the double haul method of casting employed. This means that still greater velocity is achieved by pulling the line with the left hand as the rod reaches maximum speed in both the back and forward casts.

Only with monofil and a shooting-taper line can its full potential be realized.

With these principles in mind, let's start to work — preferably over smooth-cut grass since it eliminates the necessity of lifting a fast-sinking shooting-taper line from the water for each back cast.

The best position for a right-handed caster is with the feet comfortably separated and angled somewhat to the right of the direction he intends to cast. This will put the left foot forward, making it easier to watch the back cast over his shoulder.

With tackle assembled and a leader and fly (hook cut off behind body) attached to the line, false cast in the usual way until the loop is out of the reel. Now strip off 25 or 30 feet of monofil. If you find it kinked from being wound tightly on the reel, straighten it with hard pulls — between hands, four feet at a time. Continue false casting until the loop is about three feet beyond the end ring and let the line fall to the grass ahead.

Next, since making a good fishing cast depends on making a good back cast *first,* let's concentrate on it. The back cast movement, when picking up line from grass or water, is up and back. This means up and back with rod *and* arm, not merely with the rod.

(Following a false cast, with the line higher out in front, the back cast is more a horizontal movement. Normally angled only slightly upward, it is made very much the same as the forward cast, save in the opposite direction.)

Reach out toward your extended line with both hands at waist height, backing up a few steps to remove slack if necessary. The rod should be pointed straight down the line, the right wrist

cocked downward. The left hand, out beside the reel, should hold the shooting line firmly.

Now start arm and rod up and back, accelerating rapidly. The back cast is made with the elbow and shoulder; the wrist remains locked in the position previously described.

As the rod moves from horizontal to vertical, the rod hand moves from out in front, waist high, to a position somewhat above and behind the right shoulder. The left hand, still holding the shooting line firmly, comes toward the body.

By the time the rod reaches the eleven o'clock position, the line will be coming toward you in the air. Bring the shoulder into play to move the entire rod back about 18 inches. At the same time, pivot the elbow until the rod is vertical and stop it dead. The stop is accomplished by tensing forearm, wrist, and hand, then relaxing them instantly.

During the final movement of the rod, pull the line sharply with your left hand. This is the first half of the double haul. It will send the line singing out behind. Now let the rod drift back to one o'clock. Raise your left hand, still clutching the line tightly, up near your right shoulder.

You should feel the line pull out this slack and come up tight against the rod. If not, you've done something wrong. Let it fall to the grass. Turn around, back up a step or two to remove the slack, and try another back cast in the opposite direction.

With a perfect back cast, you will feel the line tug against the rod. When all the line is out straight behind, start the forward cast. The rod, in one-o'clock position, is behind your shoulder. Push it forward briskly, *still in this position*. Push it as far forward as you can reach. Then, and not before, tip it ahead, faster and faster, pushing on the grip with your thumb.

Simultaneously with this movement, which is called the "turn-over," pull the line sharply with your left hand. The combination of turn-over and left-hand pull gives the line the greatest possible velocity. Precisely at the completion of both, with the rod approximately at ten o'clock, stop it dead by tensing the muscles, then releaxing them. Release the monofil.

The shooting taper — well named — will shoot out like a bullet. The monofil will hit the reel with a jerk, and it will be obvious that you would have cast much farther, had you stripped off more line in the first place.

Don't do it! In fly casting, like every other activity requiring co-ordination, form is all important. Practise until you can make a perfect back cast every time, watching it over your shoulder. Practise moving the entire rod, and the double haul. And let the forward cast come up hard against the reel.

But practise only a few minutes at a time. Weary muscles don't respond. Instead of working steadily for an hour, sit down occasionally and analyse what you are attempting to do. Accomplishment is easier with understanding.

A narrow arc of rod rotation results in the line going out in a shallow U shaped loop essential for both distance and accuracy. A wide arc in which the rod is swung from 9.30 to 2.30 makes a deep loop with which distance is impossible and accuracy a matter of luck.

In addition, making sure the line is straight before starting the forward cast eliminates popping off flies and snapping the line like a whiplash. No fly line can long endure this punishment, yet many anglers ask their lines to do it by holding the butt in one position and swinging the tip farther and farther as they strive futilely — for more distance. And since a rod brought too far back inevitably drives the line into the ground, they start the forward cast before the back cast has straightened. This causes the snapping that ruins their lines.

Now, after several practise sessions in which you moved the *entire rod,* making perfect, high-level back casts and forward casts that came up hard against the reel, you are ready to strip off more line and cast farther. And here — we can predict with certainty because we've watched it hundreds of times — you are going to fall flat. Instead of releasing one of the perfect false casts you have been making — and watching your fly sail out 100 feet — you are going to put a little extra muscle into the final effort.

So instead of sailing out fast and high, your fly will come to a tortuous halt and fall to the grass about 60 feet away. Why? Because you temporarily forgot form and relied, instead, on brute strength. If muscle alone could cast a fly, gorillas would be better casters than men!

Remember form — fast, straight back cast; fast, straight forward cast; moving the entire rod, turning it over and pulling the line simultaneously at the conclusion of both. And hold to a narrow arc of rod rotation, even though the butt may move six feet and the tip much farther.

Have a friend watch and tell you when you bring the rod back too far — a much more common error than tipping it too far ahead, although you may do that, too. Remember — narrow arc, shallow loop and more distance; wide arc, deep loop and less distance. Move the entire rod, accelerating from fast to faster on both the back and forward casts.

Once you get the hang of casting a deep or shallow loop at will, you will be able to angle either the back or forward cast up or down as you see fit. And you will realize that the line can move

only in a straight line — the line in which force is applied. Left, right, up, or down, it goes only where the rod sends it.

Knowing this, you will be able to tilt the arc of rod movement to control the angle of your cast. And you will soon discover that for maximum distance on a calm day or with the wind your forward cast must be angled slightly upward, just as a rifle barrel must be angled well above the horizontal to send its bullet to maximum range. To do this, of course, the back cast must be aimed slightly lower. Conversely, when you are casting against the wind you will get the best distance by aiming the forward cast lower and holding the back cast high.

Now for some errors you are bound to make: The first is what is known as "creep." Instead of keeping the rod far back in the one o'clock position until the back cast pulls against it, you begin to edge it forward as soon as the back cast is made. As the result, when you start to make the forward cast you can use only half the rod movement, apply only half the energy, and your cast will go only half as far.

Another very common error, the cause of so-called "wind knots" in the leader, is tipping the rod forward before you push it ahead. Bring the rod, in one o'clock position, from behind your shoulder to as far forward as you can reach, accelerating rapidly, *then* tip it over toward the target.

You may find yourself hauling line too soon. While a haul at any time helps — just as letting the line slip through the rings kills a cast — for maximum line speed, and distance, the haul must be made simultaneously with greatest tip speed. This is during the final, fastest rod movement of both the back and forward casts.

You will also forget that the back cast requires just as much power and takes just as long to straighten as a forward cast of equal length. Watch your back cast. When the back cast is perfect, the forward cast makes itself.

Don't lower your hand as you bring the butt of the rod forward on the fishing cast. Instead, keep it high, as though you were pushing a weight along a shoulder-high shelf. Remember, for long casts the force must be applied to the line in a single plane. To do this, the rod butt must also move in one plane.

And, finally, as you begin to gain proficiency and can make cast after cast of more than 100 feet on the grass, you will discover that after you have fished awhile your casts get shorter. Try as you will, you can't improve them. Why? This happens to all of us. We try too hard. We begin to rely on strength, rather than correct form. Relax and use less muscle. As if by magic, your fly will sail out 20 feet farther on the next attempt.

Handling Monofilament While Fishing

All newcomers to monofil shooting line fear that handling it while fishing will present insuperable problems. Actually, it gives very little difficulty.

Some anglers form it into large loops as they retrieve the fly and hold these loops in the left hand. A few hold the loops in their lips and open their mouths when they make a cast. In either case, each new loop should be a little smaller than the one preceding it. This prevents tangling.

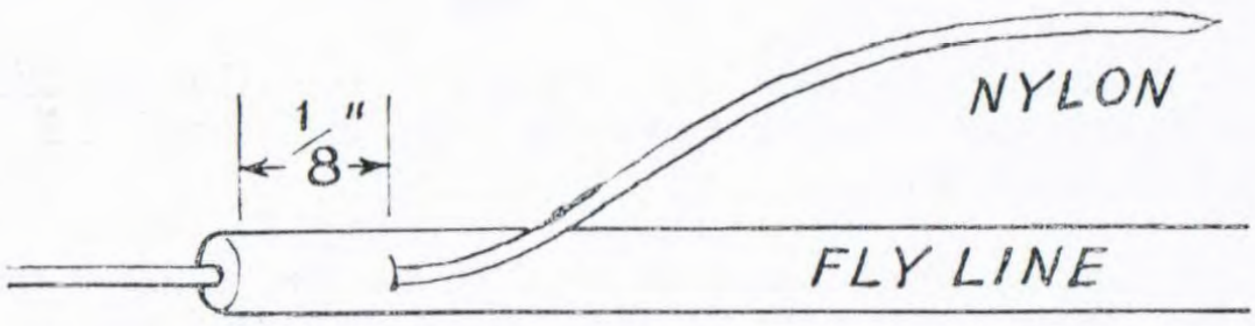
While wading a swift stream, these loops trail out on the surface of the water and pick up freely when the next cast is made. When wading in still water, however, long loops — some of them containing 15 or 20 feet of monofil — may sink and impede the cast. One solution is to form smaller loops so that only their bottoms hang in the water.

Perhaps a better solution is to use a stripping basket, especially when retrieving a wet fly slowly, a few inches at a time. Any light-weight container in which the line can be coiled and which can be held in position with a strap around the waist will do. (For deep wading, of course, the strap would go around the chest.) A plastic pan approximately 12 inches long, eight inches wide, and five inches deep, with a couple of slots for the strap, is ideal.

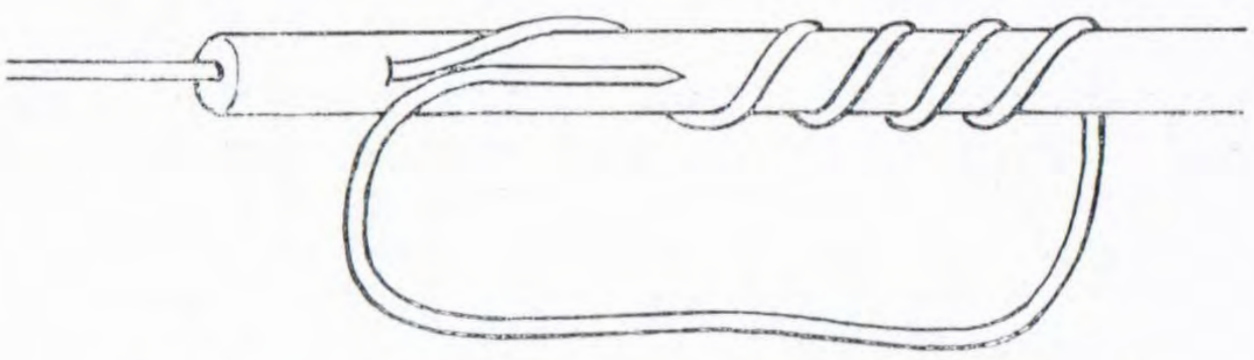
In a boat, of course, the monofil presents no problem. Let it fall to the bottom. If there are cleats or slats on which it might catch, spread a piece of canvas or — and this is helpful on windy days — strip it into a dishpan with a little water in the bottom.

NAIL KNOT

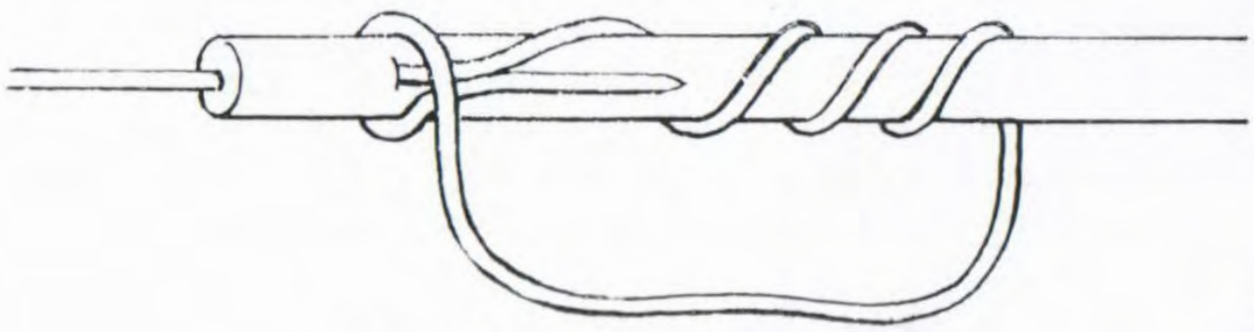
For Attaching Leader Loop and Monofilament to End of Shooting Taper Where No Loop is Provided



Perforate fly line with pin. Point end of nylon and thread through

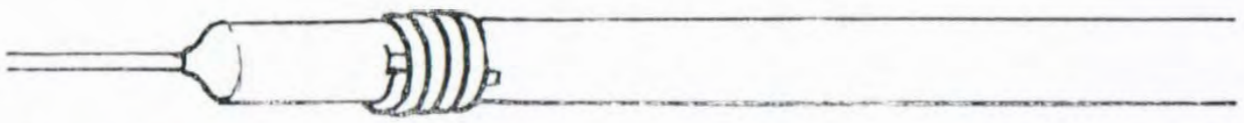


Wind nylon round fly line, bring end back and lay alongside



Take turn of nylon back over itself

Wind over until all the original turns are used up

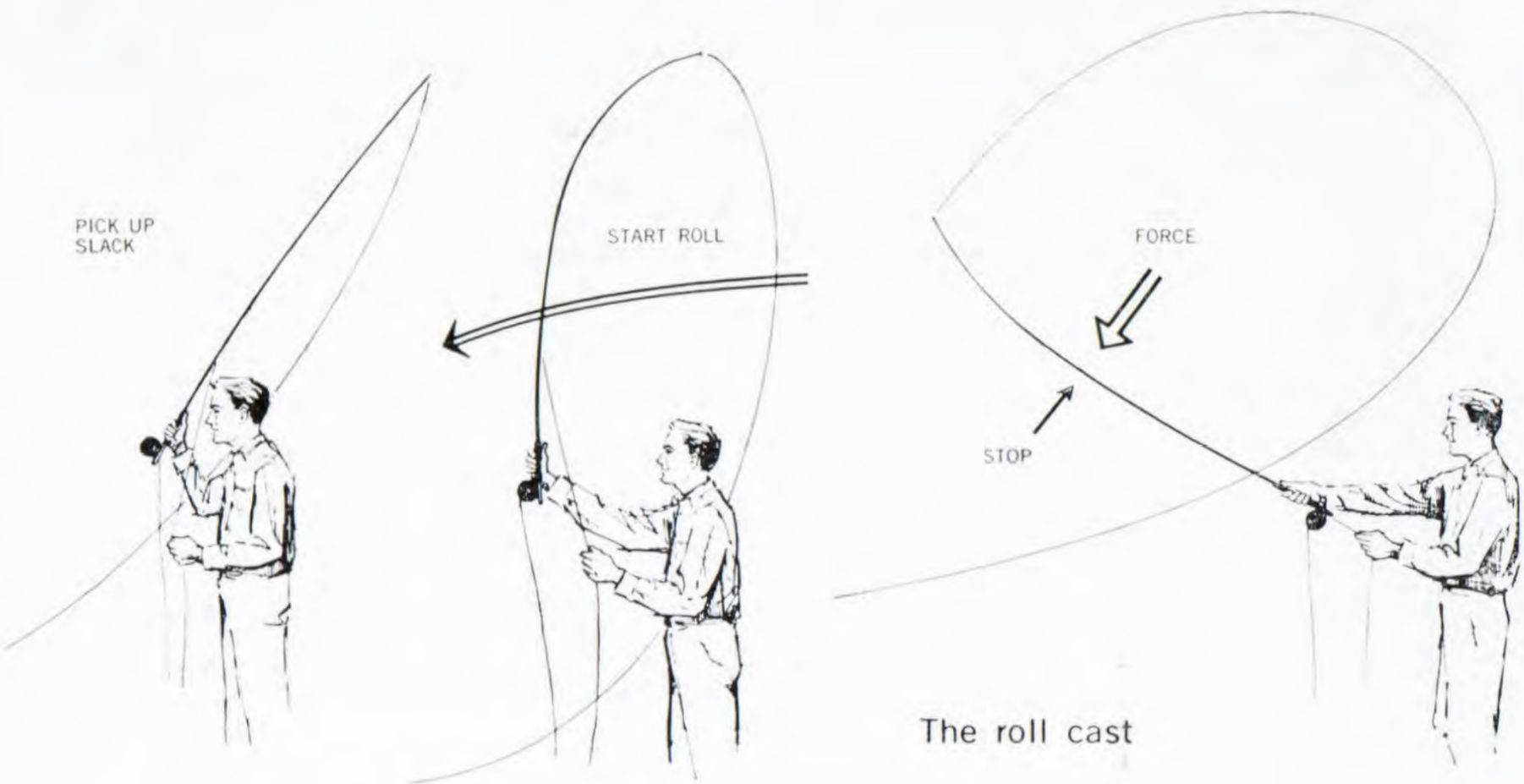


Pull hard on ends of nylon, then on nylon where it enters fly line.
Cut off loose end and varnish over all

Side Cast

Not infrequently while fishing, you'll find that overhanging trees or brush prevent you from using the usual overhead cast. It's a simple matter then to tip the rod over on its side and cast horizontally. Of course, you won't be able to cast so far because the line will start out only two or three feet above the water, but you'll have no trouble reaching the usual fishing distances. Rod movement and timing are just the same.

It's a good habit, especially while fishing the smaller streams, to watch your back cast. And from each new position, you should look back and see where it must go before you start casting. If you faithfully practised the wide-loop, narrow-loop bit and learned to control the angle of the back and forward casts by tilting the arc of rod movement, you'll find it no trick to put your back cast through a gap in the bushes.



The roll cast

Roll Cast

Sometimes there is no room for a back cast at all, however, and the solution here is to use a roll cast. With it, the line doesn't need to pass behind the angler. You have to practise this cast on water, however; grass won't do.

Start by getting some line on the water in front. You can do it by holding the butt high and the tip low and switching the rod back and forth while feeding out line with your left hand. As soon as you have fifteen or twenty feet of line out, draw it toward you on the surface of the water by raising the rod. When it is a little past vertical, switch it down.

Apply force between 12.30 and ten o'clock, then let the rod drop on down to horizontal. This should have extended the loose line out in front, more or less straight. Strip four or five feet from the reel. Again, start the line coming toward you on the surface by raising the rod. When it reaches 12.30, whip it down to ten again. After the application of power, at ten o'clock, release the extra line in your left hand. It, too, will roll out across the water and lengthen your cast by that much. This process is repeated until you're casting far enough — and a proficient caster can reach fifty feet easily, even with a shooting taper.

As in the overhead cast, direction is controlled by the movement of the rod during the time power is being applied. To cast left, bring the rod back to the right, then switch it down toward the target. To cast right, bring the rod back to the left. Always release line at the instant of completion of power.

Also as in the overhead cast, the depth of the loop in which the line rolls out is controlled by the arc through which the rod passes

during the application of power. Make a narrow arc and you get a shallow loop; use a wide arc and you get a deep loop.

If you tip the arc forward, the line will roll out on the water. Tip the arc back a little and you can make the line roll in the air and straighten above the water.

COMMON CASTING TROUBLES AND HOW TO CORRECT THEM

(NOTE: All of our casting difficulties result from casting faults. If you use the proper form, as described and illustrated in this booklet, you will avoid most of them. All of us, however, occasionally get into bad habits. Some of the most common, that are particularly troublesome to beginners, are given here with the way to correct them.)

LOW BACK CAST:

CAUSE — Hitting the water or ground on the back cast is caused by continuing to apply power too long, thereby driving the line down.

CORRECTION — Make the back cast with a brisk movement up and back, holding the wrist stiff. Stop power application when rod is vertical.

WIND KNOTS:

CAUSE — Knots in the leader are caused by tipping the rod forward first, then pushing it ahead, an instinctive fault when casting into the wind.

CORRECTION — Bring the rod forward in one o'clock position; tip it ahead only at conclusion of the forward movement.

HOOKING LINE:

Hooking the line with the fly, or the fly dropping below the line on the way out are symptoms of the same casting fault, and the correction is the same as for wind knots.

PILING UP LINE AND LEADER AT END OF CAST:

CAUSE — *Piling up* the line and leader is usually caused by releasing line too soon on the forward cast or continuing the application of power too far down on the forward cast, after the line is released. These faults are usually accompanied by waving the rod through a wide arc, rather than pushing it briskly.

CORRECTION — Release line after end of power application. Accelerate rod briskly in one o'clock position, tip it ahead sharply at end of forward movement, and stop it at ten o'clock. *Then* release the line held in the left hand.

SNAPPING OFF FLY:

CAUSE — Snapping off flies and popping the line on the back cast are caused either by starting the forward cast too soon, before the back cast has time to straighten, or else by failure to use sufficient force in the back cast. In this case, it would never straighten, no matter how long you waited.

CORRECTION — Watch the back cast and start the forward cast when line and leader are out straight behind. Use sufficient force in making the back cast so they will straighten.

HITTING ROD WITH FLY:

CAUSE — Hitting the rod with the fly is caused by the same casting fault as tying wind knots in the leader — pushing the rod ahead after you tip it forward.

CORRECTION — Bring the rod forward in one o'clock position, tip it ahead last, then release the line in your left hand. As a last resort, tip the rod slightly away from yourself while casting, though this merely prevents the fly from hitting the rod and doesn't correct the cause of the difficulty.

SLAPPING WATER:

CAUSE — Splashing the line, leader, and fly down on the water, sometimes hard enough to sink a dry fly, is caused by aiming the forward cast too low.

CORRECTION — Tilt the arc of power application backward a little so the forward cast straightens two or three feet above the water, then settles gently. In other words, aim your forward cast higher.

LINE WON'T GO OUT:

CAUSE — When the line won't go out and straighten, even 30 feet of it, one or both of two casting faults committed by all beginners are nearly always to blame: First, waving the rod through a great, wide arc, often from three o'clock to nine, instead of pushing it briskly through a narrow arc. Second, permitting line to slip through the rings during the application of power.

CORRECTION — Have somebody watch to make sure you keep the rod between one o'clock and ten on the forward cast. Push the entire rod ahead with arm movement to lengthen power application if necessary, but keep the arc between one and ten. Accelerate rod rapidly — make it bend — and tip it ahead last. Make sure you stop power application on the back cast at twelve o'clock, then let rod drift back to one as the back cast straightens.

Never let line slip out through the rings while applying power. Instead, pull in a foot or so on both the back and forward casts. Release line only when you stop the rod at twelve on the back cast and ten on the forward cast.

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