The Tailing Loop

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DYNAMICS OF TAILING AND OPEN LOOPS

by Bob Pelzl

The beginning fly caster often has difficulty controlling casting loops. At first they are too open to be very effective. Later, when the caster is able to form tighter loops, tailing loops can become a problem. An effective casting instructor knows the casting movements that cause tailing and open loops and can help the student correct these problems. I have found that explaining how these casting movements cause tailing often helps students (especially those with some technical background) to execute the proper movements to correct these problems.

An explanation can be based on a few simple concepts of dynamics. These concepts are inertia and its companion notion, momentum. We observe inertia at work every day in our normal activities. All it means is that an object that is at rest stays at rest until a force (such as a push or pull) starts it moving, and an object that is already moving keeps on moving in the same direction with the same velocity until a force (such as a push or pull) causes it to speed up, slow down or change direction. For example, when an object that you place on the car seat beside you slides towards the right door as you make a left turn, inertia is at work—the object keeps moving in its original direction. The same thing happens with a fly line. Once it is moving in a certain direction, it will keep moving in that direction until you do something to change that direction. If it comes to rest even for an instant, as at the completion of a back cast, a force is required to start it moving again.

We can go further with this notion. If we place a mark at one segment of the fly line, we can analyze that mark throughout the cast to explain why tailing loops, open loops and perfect loops occur. Before we proceed, though, we need to talk about inertia just a little more. The inertia of an object is measured by finding the mass or weight of the object and multiplying it by the velocity or speed of the object. (Strictly speaking, mass and weight are not exactly the same, but for our purpose we can consider them the same.) This product of the mass times the velocity together with the direction that the object is moving is called the momentum of the object.

It will be a lot easier to explain the dynamics of various casts if we use diagrams and introduce a pictorial way of representing the momentum of an object. We will depict the momentum of a segment of fly line on our diagrams by drawing a line segment between two parentheses and an arrow from the center of the line segment. The arrow will point in the direction of the momentum. That is as far as we need to go. Just think of the line segment with its arrow when we talk about momentum. The segment we choose to follow is the tip segment. After all, isn't it the path that the tip of the fly line follows in relation to the rest of the fly line that determines whether we have a tailing loop, open loop or perfect loop?

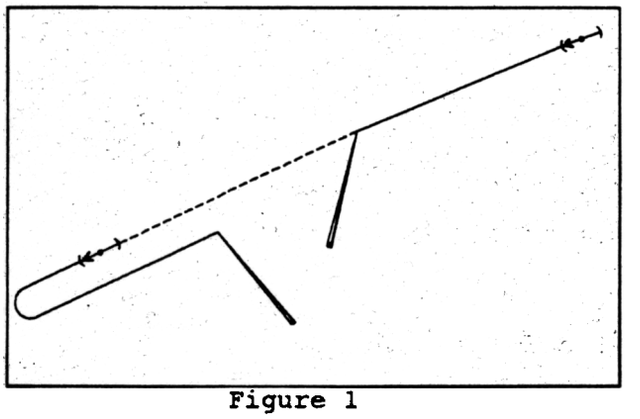

Figure 1

Notice in Figure 1 that the tip segment of the fly line is marked off with parenthesis marks, and an arrow is drawn from the center of the segment pointing in the direction the tip of the line is traveling. In Figure 1 we are looking at an idealized forward cast. The back cast has already been made. The forward cast is executed by moving the rod forward, slowly at first and then faster and faster until we stop the rod abruptly to propel the line on its way. If we execute this movement so that the rod tip travels in a straight line, the fly line will follow suit and the tip segment will be accelerated toward its target. Figure 2 shows how the rod bends

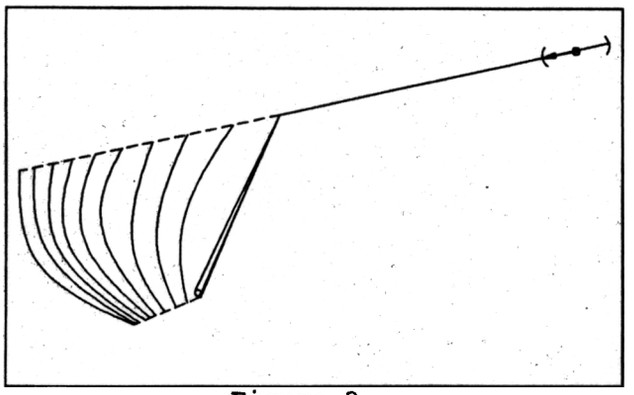

Figure 2

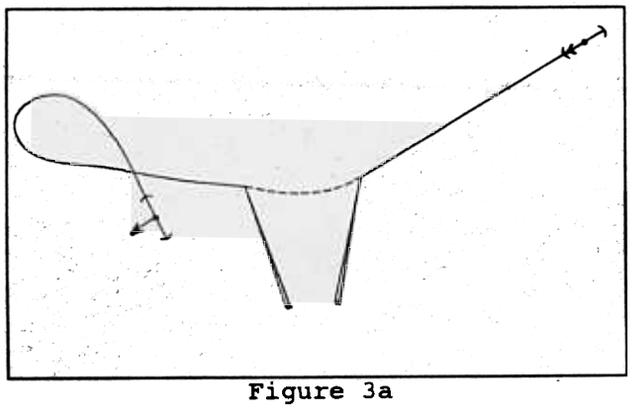

Figure 3a

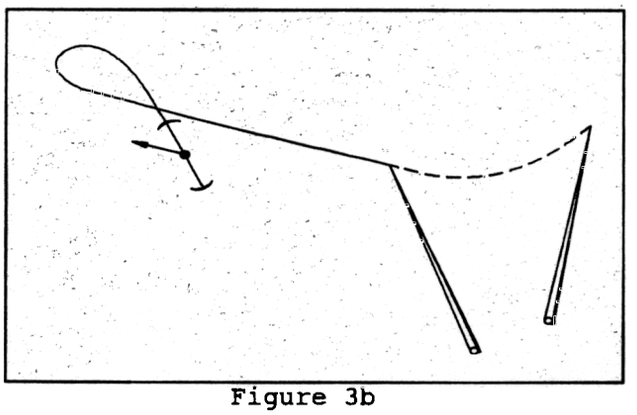

Figure 3b

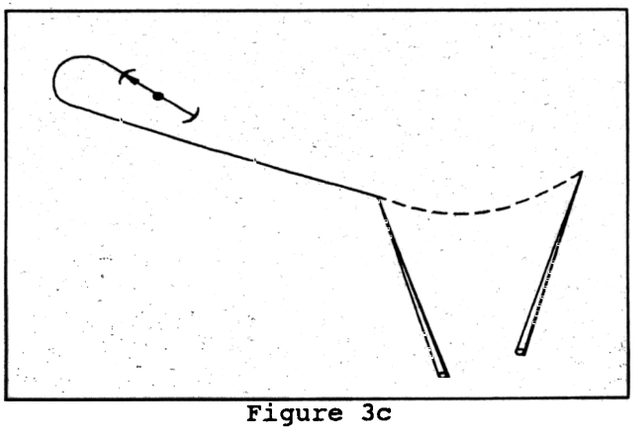

Figure 3c

during the casting stroke. That portion of the casting stroke during which the acceleration of the line is the greatest is indicated by drawing the rod at positions closer together. Notice that as the acceleration of the casting hand increases, the amount of bend in the rod increases.

If we allow the rod tip to follow a concave path as in Figure 3a, instead of forcing the rod tip to follow a straight line as we apply power, undesirable things happen. The tip segment of the fly line is first accelerated in the direction of the arrow (downward) and because of its momentum, continues in that direction. However we have forced the portion of the fly line nearest the rod tip in a different direction (upward) late during the casting stroke. The tip of the fly line, propelled by its momentum, can then travel to a point below the rest of the fly line before the force of the loop traveling through the fly line pulls the tip segment in a different direction (upward). The result is a tailing loop as depicted in Figure 3a. If there is enough energy in the loop to complete the cast, the path that the tip segment of the fly line will follow is as shown in Figures 3b and 3c. Of course, if the fly catches on the line as the loop tries to straighten, the cast can end in a tangled mess.

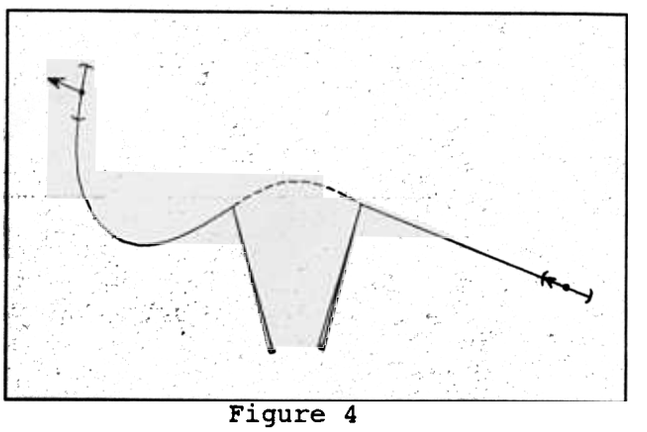

Figure 4

On the other hand, if we allow the rod tip to follow a convex path while accelerating the line during the casting stroke, as in Figure 4, then a different problem occurs. The tip segment of the of the fly line is first accelerated upward and, again because of its momentum, continues in that direction. This time we have forced the portion of the fly line nearest the rod tip in the downward direction during the late part of the casting stroke. The continued travel of the tip segment of the fly line in the upward direction (because of its momentum) opens the loop. Often there is not enough energy in the line to overcome the added air resistance caused by the very open loop and the line simply collapses, falling to the ground.

Probably the most common cause of tailing loops is shocking the rod on the forward cast. Shocking the rod means starting the cast abruptly with a sudden acceleration or jerk. Note that in this case the casting hand will actually slow down late in the casting stroke. When shocking the rod, the sudden pulling of the rod against the fly line while it is at rest immediately after completion of the back cast

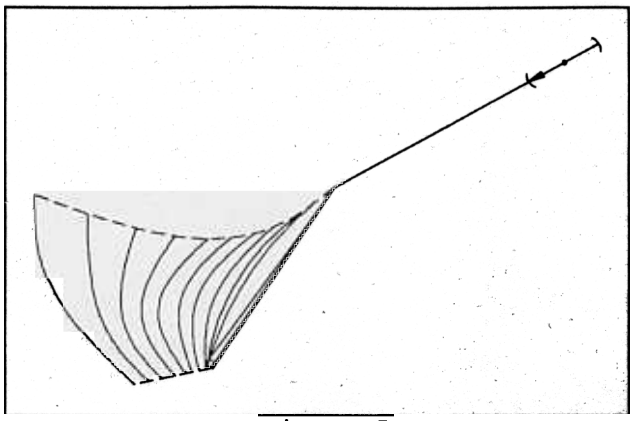

Figure 5

causes the rod to bend severely during the early part of the forward casting stroke. This is shown in Figure 5, where again the portion of the casting stroke during which the greatest acceleration occurs is depicted by drawing the rod at positions closer together. Remember that when the fly line is at rest, its rest inertia has to be overcome before it can start moving. Consequently the initial surge of energy goes into bending the rod rather than accelerating the line. Later in the cast, as the line begins to move and the casting hand slows down, the rod becomes less flexed. The path that the rod tip follows is also shown in Figure 5. Notice that the path is concave, which as we saw earlier, creates a tailing loop. In fact, in this case the tailing loop is even more pronounced because the tip segment of the fly line develops more momentum in the downward direction during the early part of the cast than it does from a correctly executed cast that accelerates slowly at the beginning of the cast.

Deliberately try to execute some of the casting motions that cause tailing and open loops. The ability to create these problems on demand will improve your understanding and control of the casting stroke and can help you correct these problems when they creep into your casting and your students' casting.

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The Tailing Loop

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COMING EVENTS

Basic & Master Certification will be offered at the following shows; contact Evelyn Taylor to pre-register (406) 585-7592:

January 3, Portland, OR - International Sportsmen's Expo (ISE)
January 16-17, Denver, CO - Denver Sportsmen's Show
January 29-30, San Mateo, CA - ISE
February 5-6, Seattle, WA - ISE
February 19-20, Denver, CO - ISE
February 21 & 23, Secaucus, NJ - Northeast Expo

March 1; Washington Council Conclave, Bellevue, WA; Basic & Master Certification with Steve Rajeff & Denise Maxwell; contact Donn Mills (206) 684-5765

March 1; Fred Hall Sports Show; Long Beach, CA; Basic Certification with the Rohrers; contact Allan Rohrer (714) 756-9286

March 29; Western Rocky Mtn Conclave; Logan, UT; Basic Certification; contact John Neuhold (801) 752-3864

May 1-3; Basic & Master Certification; Southeast Council Conclave; Pensacola, FL; contact Tom Jindra (504) 392-7511

TAKE THE FLOP OUT OF THE WRIST

by Terry Bevington

At the 1996 Brotherhood of the Junglecock (Michigan) campfire, I volunteered to be the casting instructor with Bob Krumm, a Montana guide, writer and fly tyer.

Some of the students were quite small and really didn't have the strength to keep their wrists from flopping when they made a pick up or lay down. Bob gave me the idea to flip the rod upside-down, so the reel was braced against the underside of the forearm. When the students gripped the rod properly, the reel made a brace for the wrist and the loops started to appear.

Who says the reel should bang down to make a 30 foot cast? And when they get strong enough to keep the wrist firm, they can flip the rod over to the conventional position and maintain the muscle memory for the proper casting stroke.

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