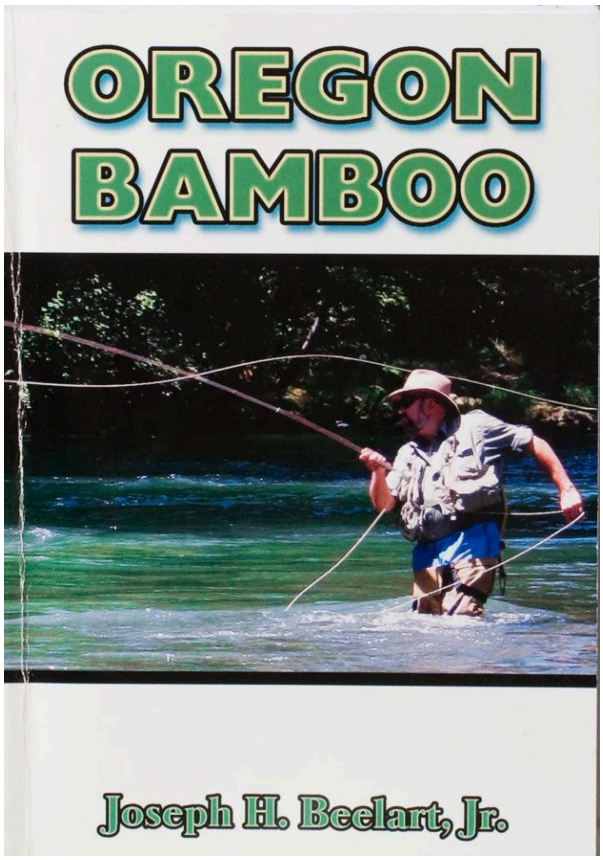
My Bamboo Rod

By Beth Jappay

I just finished building my first bamboo rod, so I decided that my next series of articles would be a mixture of bamboo rods in general and of building my rod in particular. Disclaimer: I am a newbie in this world and I may have gotten a few things wrong. So how did I end up trying this build a rod business? It turns out that is a long story, and you all know how much I like to tell my stories. So…

As your (now former) club representative to the Oregon Council, I had been increasingly engaged in helping to make the Albany Fly Fishing Expo successful. Last year I decided to help increase the show's revenue by bidding on items in the live auction in order to drive the price up. I only bid on items that I had a genuine interest in, and one of the items I bid on (and the only one that I won) was the "build your own bamboo rod" workshop donated by Chet Choco of Bellinger Rods.



I can't say I am a big bamboo rod aficionado. One of my buddies is into bamboo in a big way–Dave Roberts, He is famous in southern Oregon as a fly tyer and former guide. He is also famous for his interest and skill in casting (and previously making) bamboo. He even has his picture on the cover of a book about Oregon bamboo rod makers. Thirty years ago he talked me into buying a 4 weight rod made by Chris Rains. To this day I only use it occasionally when fishing tiny midge patterns requiring light tippet (like the midge hatch at dusk on East Lake).

Bamboo rods cast very differently from graphite, and it's easy to apply power too early and cast a tailing loop. I don't find that I can cast my 4-wt much more than 45' consistently, and since it is better suited to small streams and I mostly stillwater fish I don't use it very often. So when I briefly spoke to Chet at the Expo and he asked me what kind of fishing I would like to use my rod for, I didn't immediately have an answer. It later came to me…Klamath Lake.

*I have written several articles about my experiences at Klamath Lake, but for those of you who are unfamiliar, the lake is famous for having very large and entirely native fish. Fish there

average 4-5 lbs and 20-24”; I have fished for weeks at a time without catching a single fish under 18”. Moderately pressured, those fish are also educated and spooky, and lighter tippet works best.

I was given the tippet tip by Benson, whom I have written about before and who is by far the most successful stillwater fisherman I have ever directly observed. I remember one day I fished a Callibaetis hatch next to him and only caught one fish to his four. I inquired about and matched his leader length (15’), fly size (#14), fly depth (4’), indicator (New Zealand), and determined that the only difference was that I was using 4x tippet and he was using 6x tippet. Why does tippet diameter matter? I doubt that the fish can *see* 4x tippet in the water, especially since I use fluorocarbon in this situation. The main difference is that lighter tippet is more flexible, allowing a more natural movement of the fly in the water.

Getting back to my story, when I tentatively dropped my tippet size to 5x I definitely had more strikes, but not as many as Benson was having. When I dropped it further to 6x I had notably even more strikes, but had significantly more problems with break-offs when setting the hook or when the line from my stripping basket got hung up as the fish took off. When I asked Benson how he kept from breaking off as many fish as I seemed to be doing, he told me he was using an old Graphite III rod with a softer tip.

Circling back to the initial topic…I eventually decided I could use a “Klamath Lake rod”. So when I called Chet to schedule my workshop I told him that I wanted a 6-wt rod that “could cast 60’, but protect 6x tippet from a 10 lb fish”. I think Chet was taken aback by that answer, but he felt like he had a solution–a “Dickerson taper”; a friend had told him this worked well while saltwater fishing. I had no idea what a “Dickerson taper" was at the time, but when I began building my rod I first began to understand its significance and importance and was introduced and initiated into the world of bamboo rod tapers.

Though the Expo was in March, Chet let me know that he was in the process of selling his business and that early fall would be better for us to get together. So, we scheduled a date in early September to begin what later proved to be a long process in building this rod.

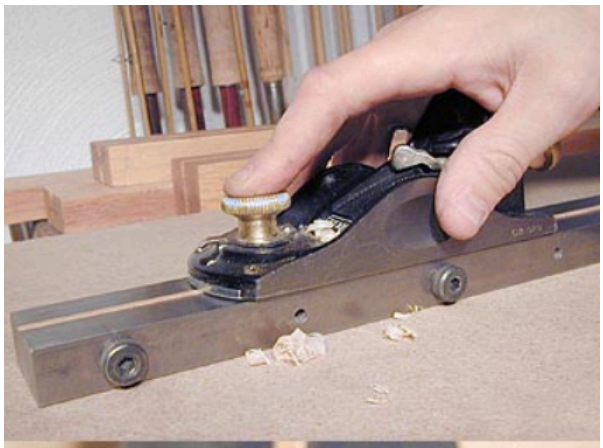
The first thing that Chet did was to gather a selection of bamboo rods and have me join him at a park. There I cast each one, as well as my 4-wt. Besides an example of the Dickerson taper, he brought a classic Garrison taper, as well as two rods with more unusual tapers.

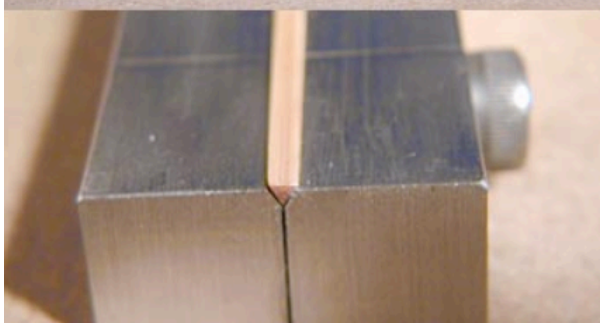
As a certified casting instructor I am well qualified to judge how one rod casts differently from another, and I have to say I was amazed at how big a difference there was between different rod tapers.

One of the basic tenets of fly casting is that the application of power must be smooth and that during the casting stroke the speed of the tip must progressively increase to “the stop” (the moment the tip of the rod starts to slow down the loop will begin to unroll). In summary, the tip of the rod moves the fastest but has the least power, the base of the rod is the slowest to load

but has the most power, and the mid-section of the rod is somewhere in between. I could definitely feel that the Garrison taper loaded deeper into the rod and required a slower casting stroke; in contrast the Dickerson taper didn't load as deep, allowed a faster casting stroke, and was better able to cast longer distances.

So what is it that determines how a rod will cast and how is this translated into rod building? It turns out that there is a whole world of bamboo rod tapers that I had no idea existed.



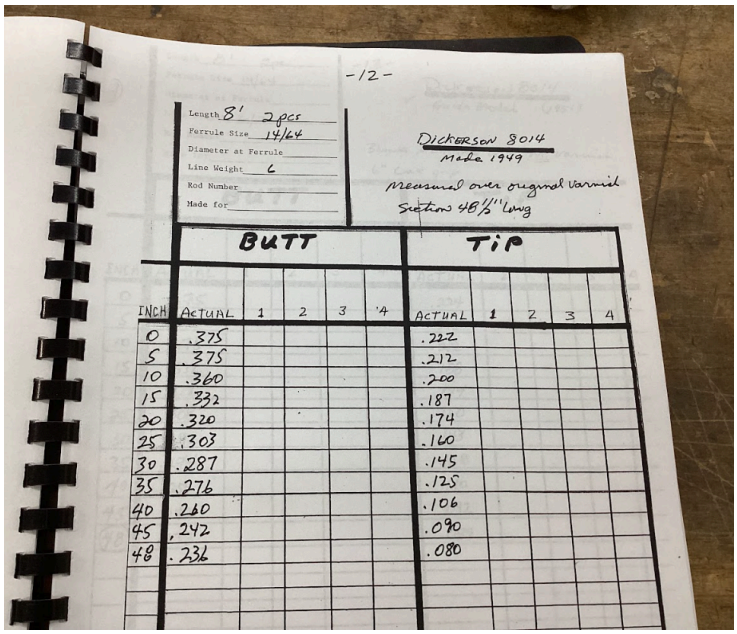


I will go into more details of the rod-making process in a future article, but the most basic explanation is that tapers are created by laying a triangular-shaped length of bamboo in a planing device and then hand planing it until the bamboo is flush with the device. The tapers are determined by adjusting the gap between the two halves of the plane. This gap is measured and adjusted every 5". Therefore the measurement for the determination of the taper is also done every 5", starting at the tip of the rod for the tip section, or the narrower side for other sections. The accuracy of both the calipers and the planing device is down to 1/1000th of an inch. When put into a written format, a chart can be created that would look something like this:

7'0" Garrison Fly Rod Taper

Distance from Rod Tip	Rod Dia.	Planing Form Setting*
Tip	0.0625	0.03125
5	0.077	0.0385
10	0.096	0.048
15	0.112	0.056
20	0.126	0.063
25	0.139	0.0695
30	0.151	0.0755
35	0.163	0.0815
40	0.175	0.0875
45	0.188	0.094

Why every 5", not 4 or 6? It turns out 5" has been the standard for bamboo rods for well over a century. Rod tapers and casting performance is something that is constantly (and at times hotly) discussed or debated in the world of bamboo. In fact, I learned that rod builders avidly collect measurements of various rods.



-12-

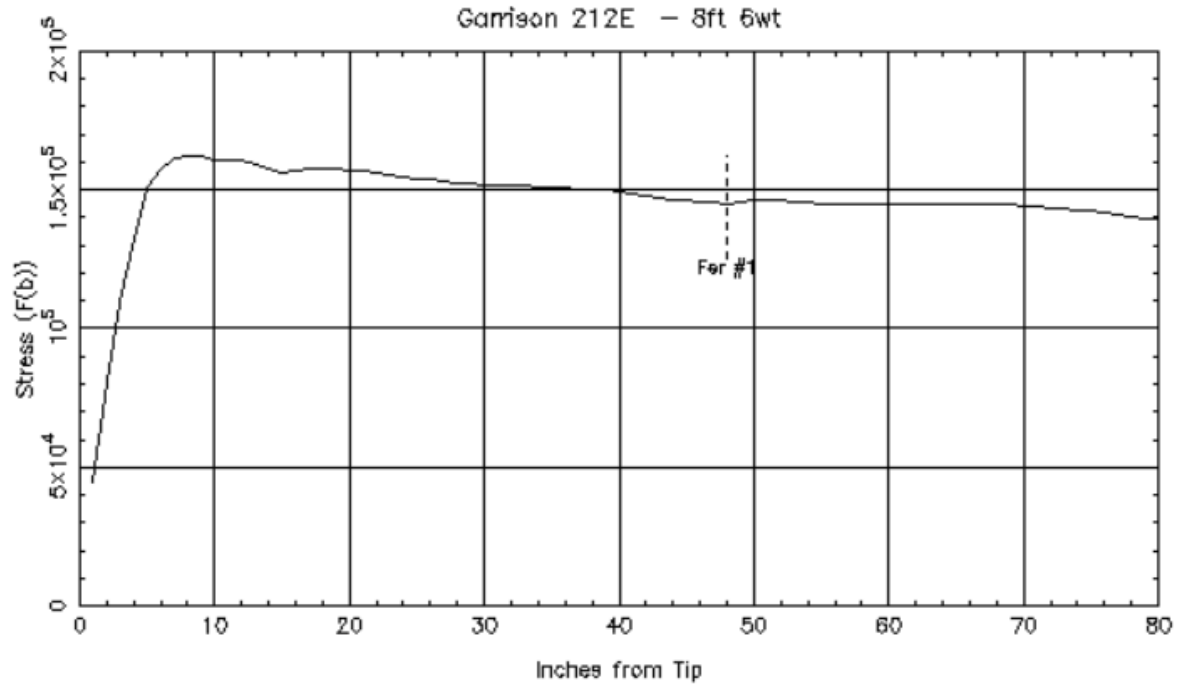
Length 8' 2pcs
Ferrule Size 14/64
Diameter at Ferrule
Line Weight 6
Rod Number
Made for

DICKERSON 8014
Made 1949
measured over original varnish
Section 48 1/8" long

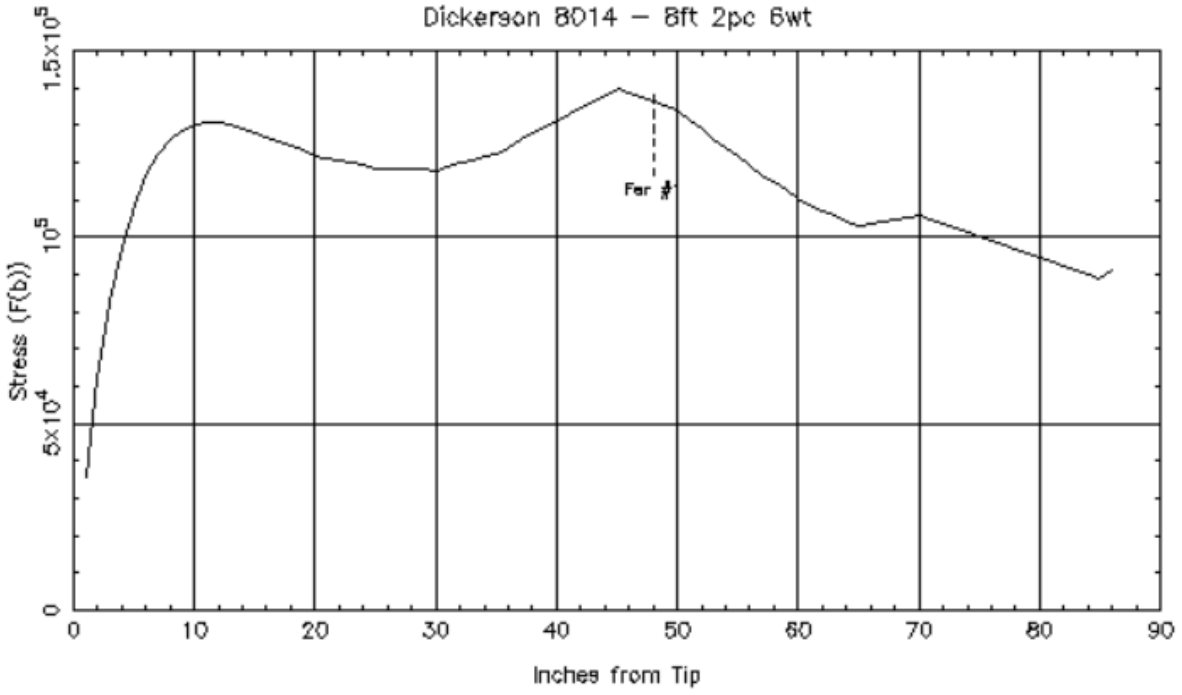
	BUTT					TIP				
INCH	ACTUAL	1	2	3	4	ACTUAL	1	2	3	4
0	.375					.222				
5	.375					.212				
10	.360					.200				
15	.332					.187				
20	.320					.174				
25	.303					.160				
30	.287					.145				
35	.276					.125				
40	.260					.106				
45	.242					.090				
48	.236					.080				

Chet proudly showed me a journal in which he listed the tapers he has collected. In addition, there is also a website that is dedicated to rod tapers, called Hexrod. There, contributors are encouraged to enter measurements of the rod tapers they come across, especially those from older rods or from a famous manufacturer. The website even has an embedded calculator that can turn entered diameter measurements into something called a “stress curve”, a term I had never heard before but which Chet was ready to discuss in detail.

What is a stress curve? Almost a century ago Everett Garrison (who was both a rod manufacturer and engineer) came up with a mathematical formula that translated rod diameter into an accurate prediction of how the rod would flex at that particular point. By measuring the dimensions every 5” and plugging the result into his formula, a graphed curve can be generated. As an example, the stress curve for the Garrison taper rod I casted would look something like this:



Whereas the stress curve for the Dickerson taper rod I decided to build would look something like this:



In fact, Chet told me that an experienced bamboo rod aficionado can glance at a stress curve and know if it is from a Dickerson taper, a Garrison taper, an Edwardson taper, etc. Not only

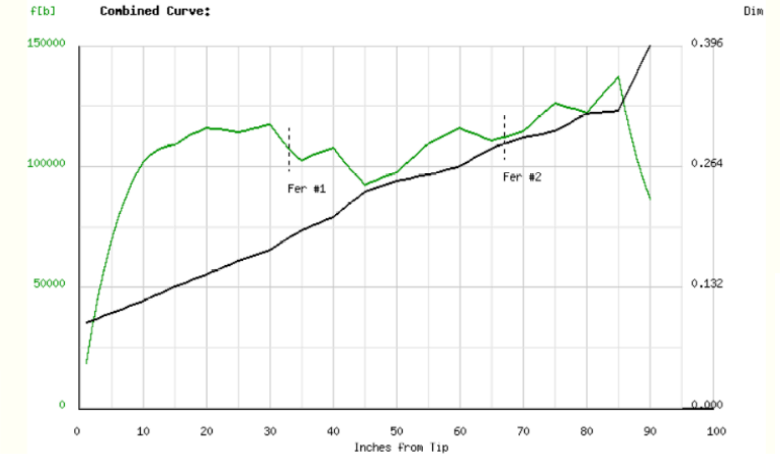
that, but he or she should have a general idea of how that rod would cast before even handling it.

Umpqua Warrior

All In One Report

Parameter	Value
Geometry	Hex (6)
Construction	Solid
Rod Len	8 ft 6 in (=102 in)
Action Len	7 ft 6 in (= 90 in)
Line type:	Standard
Line Weight:	5 DT
Pieces	3
Line Fished	40 ft
Tip Factor	1.754
Ferrule Type	Standard
Ferrule 1	Size 14/64 Rod is 12.134/64 (0.190 Inch) at 34.00 in from tip Wt 0.328 oz (9.298g)
Ferrule 2	Size 14/64 Rod is 18.573/64 (0.290 Inch) at 68.00 in from tip Wt 0.328 oz (9.298g)

Station (Inches)	Dimension (Inches)	Form Set
0	0.090	0.0450
5	0.103	0.0515
10	0.116	0.0580
15	0.132	0.0660
20	0.145	0.0725
25	0.160	0.0800
30	0.172	0.0860
35	0.194	0.0970
40	0.208	0.1040
45	0.236	0.1180
50	0.248	0.1240
55	0.254	0.1270
60	0.264	0.1320
65	0.283	0.1415
70	0.295	0.1475
75	0.302	0.1510
80	0.321	0.1605
85	0.324	0.1620
90	0.396	0.1980
95	0.409	0.2045
100	0.422	0.2110



Fascinated but still confused, I decided to familiarize myself further.

I was gifted a bamboo rod that needs some work; I pulled out my scientific calipers and took measurements of its diameter every 5”. I then entered the results into the Hexrod website, answered a few questions, and viola! The site generated a stress curve for that rod!

Index of Rod Makers & Companies

- Walker Bampton
- Bristol
- Wayne Cattanach
- Clifford Constable
- Cross
- Devine
- Lyle Dickerson
- Edwards
- Everett Garrison
- Pinky Gillum
- Granger
- Hardy
- Heddon
- Horrick-Ibbotson
- Leonard
- Montague
- B.F. Nichols
- Orvis
- Jim Payne
- Pezon et Michel
- Bill Phillipson
- E.C. Powell
- Walton Powell
- J.S. Sharpe/Farlows
- F.E. Thomas
- Nat Uslan
- Richard Walker
- Paul Young
- Miscellaneous

Description	Retrieve Button	See Stress Curve
Walker Bampton		
Walker Bampton "Joe Frost" 9ft 3in 2pc 9wt Posted by Ian Kearney on January 16, 1999. A premium New Zealand rod named after a well known guide. May be heavier than a 9wt. Varnish of 0.006 subtracted.	wb9329	
Walker Bampton "Special" 10ft 2pc 9wt Posted by Ian Kearney on January 17, 1999. May be heavier than a 9wt. Varnish of 0.006 subtracted.	wb1029	
Bristol		
Bristol F7 - 8ft 6in 3pc 6wt Posted by Reed Curry, June 30 1995. Varnish of 0.006 subtracted.	brs8636	
Clifford Constable		
Constable Wisp - 6ft 2pc 3wt Posted by David Ray November 3 1999 Varnish of 0.004 was subtracted by David. See posting for guide spacing.	conwisp	
Wayne Cattanach		
Cattanach 7ft 2pc 4wt		

I then perused the various stress curves that were listed on the website to try to find a match.

There have been attempts to generate other systems to describe bamboo tapers. As far as I can tell they haven't supplanted Garrison's stress curve system for general use.

Stay tuned for next month's installment–selecting and cutting the bamboo for my rod.

* My Rocky Point Experience
  Rocky Point (Klamath Lake) Revisited
  Rocky Point Revisited (Again)
  Locating Invisible Fish