

AS THE WHEEL TURNS

DRAW MECHANISMS PART 2

I began this series of articles on draw mechanisms last month with a discussion of double banded wheels. There are two other types of draw mechanisms. One is found on the Ashford wheel and commonly referred to as scotch tension or driven flyer. The other type is found on many bulk spinners including the indian head spinners of the N.W. coast. I will refer to it as indian head tension although it is sometimes called driven bobbin.

SCOTCH TENSION

On a wheel using scotch tension, a single band drives the flyer pulley (figure 1). A tension cord (often a piece of heavy nylon monofilament) passes over the bobbin pulley. On one end of this cord is a spring or rubber band and on the other end is a knob or peg that allows you to tighten or relax the tension on the pulley (figure 2). Yarn being spun passes into the orifice, thru the hooks and onto the bobbin. When there is no tension on the bobbin pulley, the bobbin tends to be pulled along by this yarn at the same speed as the flyer. The more you twist the tension knob and tighten the cord on the bobbin, the more the bobbin resists being pulled around. As the flyer rotates faster than the bobbin the yarn is drawn in and wrapped around the bobbin. The more you tighten the tension cord the stronger the draw.

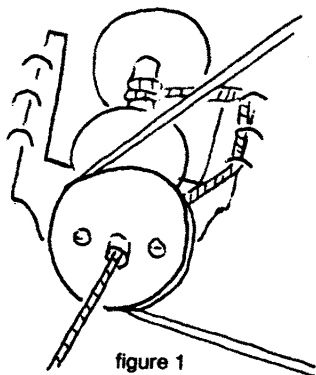


figure 1

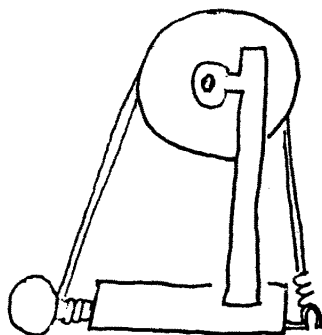


figure 2

INDIAN HEAD TENSION

On a wheel using indian head tension the bobbin is driven and the brake or tension cord is on the flyer. Many wheel designers place the tension cord over the tubular orifice rather than construct a flyer pulley (figure 3). When tension is applied to the flyer it resists turning. The bobbin which is now turning faster than the flyer draws on the yarn.

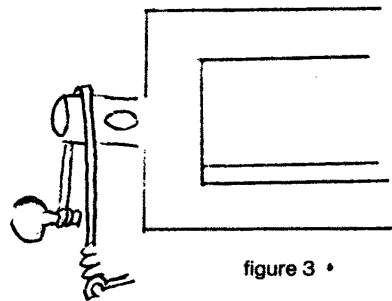


figure 3 •

There is a basic difference between both the scotch and indian head draw mechanisms and the double banded draw. On the first two, when the bobbin or flyer is highly tensioned and the yarn is allowed to pass freely onto the bobbin by the spinner the yarn will be drawn in at great speed with little twist added. On the double banded wheel, the amount of draw will always be in proportion to the pulley ratio or difference in size between the pulleys on the fly wheel and bobbin. On some double banded wheels this means substantially less draw although many people prefer the double banded system because they feel it allows them finer adjustment in the amount of draw.

(Again I would like to express my thanks to Michael Bayer (Seattle) for first explaining to me how spinning wheels work and to Tony and Vlasta Blaha Glaski for their help in defining technical terms.)

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QUESTIONS:

DOES A DRIVEN BOBBIN SPINNING WHEEL* HAVE ANY SPECIAL ADVANTAGES OVER OTHER TYPES OF SPINNING WHEELS?

The driven spinning wheel, with its flyer brake, has several general names. If the flyer assembly is large and the drive wheel large then the spinning wheel may be called a bulk spinner or Indian head spinner. If the flyer assembly is small and the drive wheel is large then it may be called a One advantage of the driven bobbin spinning wheel is its potential for extremely strong draw. This characteristic has great potential for fiber artists who require thick, high loft, and textured yarns for their works.

Another advantage possibly not apparent at first glance is the capability to spin yarn with 0 tpi. Extremely low twist yarns of high loft can be spun upon this type of wheel that would be extremely difficult using other types of flyer wheels.

The driven bobbin spinning wheel has fewer critical parts than the other types of wheels with flyers and bobbins. This fact should be reflected in the price of this type of wheel because it is easier to build.

The final advantage that could be mentioned is that the tension adjustments are easier to make on a well-designed driven bobbin than on a well-designed driven flyer wheel.

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*Please note I have been referring to "driven bobbins" as "indian head." —Pat.