

Our Mill Equipment

The yarn-making process begins in the fiber receiving area (below at left). All incoming fiber is labelled by customer and job. Then, materials move on to hand-sorting and opening (middle); and scouring (washing) (at right). Opening prepares the fiber for scouring by pulling sticky tips apart and loosening some of the entrapped vegetation and dirt. Sorting and opening not only helps to make scouring faster and more effective, but doing so also enables us to use less hot water, reducing costs and environmental impacts. Getting fiber really clean is a key to lovely yarn! We normally scour with a system of hot water wash, rinse, wash, rinse, and final rinse. Each basket, at right, is filled with dirty fiber, and the baskets move from right to left down the scouring line. Some especially dirty material may require a pre-wash soak or an additional wash and rinse at the end of the cycle.



After scouring, the fiber is air-dried on these re-purposed bakers racks (left). This saves on our energy costs and helps keep fiber from becoming too dry, while adding a little more moisture to our processing facility where we are always trying to keep humidity at an optimal 60-65 percent. The washed material is then prepared for carding by going through this belt-fed picker (middle) which loosens fibers that got stuck together during the scouring process. From here, we feed the picked fiber into our 1980s vintage 84" Davis and Furber carder (right) – which is really one of the most critical machines in the success of our operation.



Carded material (left) is coiled into cans (next). This roving can be used as-is for wet-felting craft projects or by the needle-felting industry. It is also used by home decor businesses as quilt batting, pillow and duvet filling, and by the growing peg-loom knitting community.

Battenkill Fibers has two Warner & Swasey pin-drafters (right) – one machine has four can delivery capacity and the other has two cans. While these are 1960's era machines, we have fully re-built and re-furbished them to perform as well as they did the year they were made! We use combs with greater tooth spacing in the first pin drafter to begin the fiber alignment and drafting process; and then move the sliver on to the second machine that has finer combs for two or three more passes. In this way we can be sure that the fibers are as uniform and parallel as possible before heading to our spinning frames or to our hand-spinning customers. This is the part of our process that distinguishes our yarn as semi-worsted.



The drafted sliver then moves to one of our two Gaudino spinning frames. We run most of the DK weight and heavier yarn for hand knitters on our original 60-spindle spinner (top left); and put the lighter weight knitting yarns; and yarns for weaving on our newer 108-spindle frame (top right). Both machines work by drafting the slivers between a series of rollers until it reaches the desired thickness and then twists onto bobbins. We can make single ply yarn with 3 twists-per-inch up to 8 or 9 TPI.

The yarn making process finishes up with plying and skein winding or cone winding.. Our Saco-Lowell Meadows twister (middle left) is used for making two, three or four-ply yarn. We can adjust the twists per inch on this machine from 2 to 6. We were able to salvage this machine in the 2010 fire in our old building – one of the few things that we could save; and only needed to replace the rubber on the rollers which had melted. We use a Belmont Reels skein winder (middle right) that enables us to make up to ten skeins at a time of two different circumferences and of any length/weight. Our most popular put ups are 50g, 100g, and 4 oz.



