

22. Silk, Cotton and Silk, and Cotton Piece Goods.—Burton Bros. & Co., New York, N. Y.

23. Woven Cotton-Fabric Piece Goods.—Consolidated Textile Mills Co., Baltimore, Md.



24. Cotton Piece Goods.—The Florence Mills, Forest City, N. C.

25. Handkerchiefs.—The H. B. Claffin Co., New York, N. Y.

27. Woolen Piece Goods.—Fisher & Kennedy, New York, N. Y.

28. Cambric, Nainsook, Lawn-Cloth, and Muslins in the Piece.—Carson, Pirie, Scott & Co., Chicago, Ill.

Dextrine in Finishing.

The best test of the efficiency of dextrine as a dressing is the degree of stiffness retained after some hours' standing by a mixture of equal parts of water and dextrine thoroughly ground up together. Yellow dextrine is usually best, but must be free from all excess of starch. It ought to give a nearly pure violet with iodine. As little acid as possible must be used in its manufacture. For average flour, the nitric acid (40 deg. B.) used should not exceed one part by weight to 500 of flour.

DICTIONARY OF TECHNICAL TERMS RELATING TO THE TEXTILE INDUSTRY.

(Continued from December issue.)

URNS (per inch):—The extent of the torsion in yarn.

TUQUE:—A Canadian cap, made by tucking one tapered end of a long knit fabric into the other; much worn as part of a winter costume, as in tobogganing or snow-shoeing.

TUSSAH:—A species of rough silk obtained from wild worms, not in captivity, and that feed on oak and other leaves of the forest. It is sometimes called the *Wild Silk of India*, is darker in color than ordinary raw silk, contains more gum, which permeates the whole wall of the cocoon, imparting to it its darker color, and is more difficult to utilize in reeling, throwing, bleaching and dyeing, as compared to true silk.

In India, tussah silk has various names indicative of varieties, such as *Tasar*, *Tasar-muga*, *Data*, *Laria*, *Bogai*, etc., the four latter being applied to varieties of cocoons. In this country and Europe it is known as *Tussore*, *Tussah*, *Tusser* and *Tussur*, its general name in India being *Tasar*, the *a* being pronounced as *u*, it is therefore perhaps more correctly Anglicized as *tussur*, which gives its exact pronunciation. This name is said to be derived from *Tasara*, a weaver's shuttle.

The differences in the fibre structure of tussah silk from that of the ordinary raw silk of commerce, the product of the bombyx mori silkworm, is very considerable. The width of the single or ultimate fibre of tussah silk is about the 750th part of an inch, and in this narrow width there are about 20 small fibres of fibrilla lying longitudinally, and connected with each other by a hardened fluid seriposited at the time the worm forms this silken thread.

TWEED:—A rough unfinished woolen, or cotton and wool fabric, of a loose flexible texture, usually of yarn of two or more shades, originally the product of the weaves on the bank of the river *Tweed* in Scotland. The face of the cloth presents the desired unfinished appearance in opposition to a sharp and clearly defined pattern. English and Scotch tweeds differ in stock and character. The coarser kinds of tweeds are often called *cheviots*.

TWEEL:—The Scotch word for twill.

TWILL:—A term applied both to a special system of weaves and also to fabrics interlaced with those weaves. Twill weaves are the second system of the foundation weaves. The characteristic of the twill weave is the twilled effect running across the fabric in a diagonal direction. The number of twills to the inch in standard fabrics is often used to indicate their quality.

TWILL-SET:—The name given to a mode of wire-insertion into the foundation of card-clothing. There are three modes known respectively as *rib set*, *open set* and *twill set*.

TWINE:—A cord composed of several strands, especially when made of hemp or manila; also a strong thread made of hemp or cotton, used in sewing sails.

TWINER:—A machine for doubling, similar to the mule, as distinguished from a frame.

TWIN NEEDLE:—Refers to a double row of interlocked machine stitching used for covering raw edges and seams on knit underwear.

TWIST:—The number of turns per inch inserted into a yarn to bind its fibres together and thereby to add more strength for manipulation and wearing. The amount of twist applied varies according to the material, process, means employed for its application, and ultimate requirements.

Yarn used for warp purposes.

TWISTER:—In weaving, the person whose occupation is to twist or join the threads of one warp to those of another.

A machine for twisting yarns, threads, cords, etc. These are of various kinds, as twisters built upon the throstle frame principle; the mule jenny principle, which are known as twiners; and ring frame twisters, or ring twisters. The latter is the most frequently used twister. What is most in favor of the ring twister, compared to the other styles of twisters, is the amount of production, and the even twist. The thread twisted on the twiner is more woolly in appearance.

TWISTING-IN:—Joining a new warp in the loom to the ends of an old one, in turn saving drawing-in as well as adjusting the harnesses, of a new warp in the loom.

TWIST MACHINE:—A form of lace making machine.

TWISTING-MACHINE:—A machine for making rope or cordage.

TWIST TESTER:—A machine for testing the number of twists or turns in a thread of spun yarn.

TWIT:—A thin place in a piece of yarn; small knots or irregularities caused by uneven drawing or too much draft in the spinning.

TWIZZLE:—Another name for the flyer eye.

TWO-FACED:—Double-faced, as a two-faced fabric, that is, a fabric having both sides or surfaces alike; also called double-faced or reversible.

TWO-PLY:—Yarn composed of two minor threads.

Two single cloth structures united in one fabric.

Cotton Goods for Last Year.

The variation in prices of goods of print cloth yarn construction has not exceeded half a cent a yard on some styles, amounting to five-eighths of a cent as the widest range in standard prices. Prices of the year have given the mills a very moderate profit, since cotton has ruled too high to allow any large profits from the good prices obtainable.

Middling uplands cotton, spots, has shown a difference of 2.8 cents per pound between the highest and lowest quotations of the year. The lowest price was 11.7 cents and the print cloth mills have probably paid for actual cotton an average price above 13 cents.

The fine goods mills have had a less satisfactory year than the mills producing goods of print cloth yarn construction. The demand has been light and the prices have been low. Most of these mills are carrying large stocks of goods.

27-inch, 64 x 60s, has taken the place during the year of 28-inch, 64 x 64s, and 27-inch, 64 x 60s, as the standard style of narrow goods. Quotations on the other two styles named have been nominal most of the year. Only 27-inch, 64 x 60s, of narrow goods are named in a review of the year's prices.

THE RING FRAME.

Calculations.

(Continued from September issue.)

Taper.—The taper of the bobbins in connection with the warp wind (see Fig. 291) and the speed at which the respective layers in filling wind rise (see Fig. 293) can be regulated by a change in the number of teeth moved by the pawl *Y*, *i. e.*, by raising or lowering the adjustable rod *Z*. The same as with the traverse change gear, previously explained, experiment is easier than calculations, and having once secured the desired taper, the spinner then can readily calculate from this the number of teeth to be pawled for any other count of yarn to be spun, being careful to remember that the taper desired must be always such that the coils will not slide over each other with a chance of becoming tangled by much handling. The same as with the traverse gear, the teeth to be pawled for a new count of yarn to be spun, can be ascertained best by proportion from the count of yarn spinning thus:

$$\sqrt[2]{\text{yarn being made}} : \sqrt[2]{\text{yarn to be made}} :: x, \text{ or teeth to be pawled for count to be spun} : \text{teeth being pawled in count spinning.}$$

Sizing the counts of the yarn.—The question of keeping the count of the yarn spinning close to its required count, carries us back to the preparatory and carding processes, since for the production of a yarn well up to its standard number, it is essential to keep every process or preparation distinct from lap to loom. Let only an experienced and reliable hand take charge of the mixing, let the sliver and roving cans be painted in different colors for every section, keep a distinct color of bobbin for each division of sliver, roving and yarn. Let each process be reeled, *i. e.*, tested as to proper size twice a day, and if there is any cause for doubt that the numbers are varying more than permissible, test more frequently, so as to detect the irregularity. Carder and spinner should compare their accounts with each other's.

In mills where a variety of counts of yarns are spun, it is necessary that every precaution is taken to prevent the different kinds of stock, laps, sliver, roving and yarn from getting mixed. The best plan to prevent any chance of mixing is to have every lapstick, can and bobbin painted and varnished a distinctive color and when then each division of stock, no matter in what state of advancement, is then known by that color and easily kept distinct.

In some mills the spinner may come in contact with two or more classes of graded stock, from which he has to spin numbers ranking according to the character of the staple. These vary in the hank roving, coarser or finer, so as to obtain a medium draft on the previous processes, as well as to supply the proportion the demand requires by the speeds of the machinery and the counts to be spun. In these mills the best of care must be taken with the roving and yarn to keep them separate and provide means to discriminate between them at a glance. Crayons have been found to work well, so long as the help are instructed how to use the latter. By this means much trouble and loss are prevented and besides the numbers are kept closer to those required to be spun.

To keep the weight as close as possible to its number is the best the spinner can do, since the more we investigate the subject how near to the actual figures, on paper, the spinner has to come to, the more con-