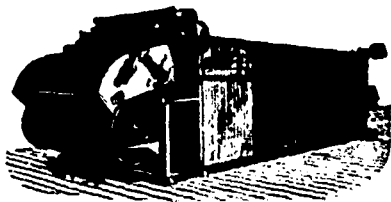


Insufficient twist in the yarns is the great evil. The aim of the spinner is to produce yarns that will weave well, yet show a fine, soft finish to the goods. To do this it is frequently necessary to reduce the twist of the yarn, otherwise the goods finish hard and wiry. In order to avoid the harsh feeling, the spinner often goes to the other extreme, and makes the yarns with not enough twist in them, which always results in baggy goods. To attain the correct amount of twist for a lot of yarn requires much skill.—The Textile Mercury.

### MODERN WOOL DRYING.

Until the past few years a wool dryer of any considerable capacity that was economical in labor, floor-space and heat was an unknown quantity, and, until the advent of the automatic continuous machine, advantageous drying was one of the principal difficulties experienced by woolen manufacturers.

After many long and tedious experiments the Philadelphia Textile Machinery Company, Hancock and Somerset streets, Philadelphia, Pa., produced their now famous "Cyclone" automatic continuous machine for drying wool, which marked the beginning of a decided era of advancement in this branch of the industry. Under all the old systems it was imperative that a uniformly low temperature be maintained in order to prevent harshness in the fiber (one of the chief features in successful wool drying), consequently, the capacity was comparatively small, and the expense of drying great. Sometimes, however, in order to meet the requirements of a larger capacity a high temperature was used, greatly to the detriment of the stock.



As a result of their experiments the Philadelphia Textile Machinery Company found that harshness was produced by two causes, i.e., a high temperature on dry stock, and a lack of air circulation, or, in other words, a baking of the stock. They also learned that by subjecting the stock to a high temperature, say 180 degrees, upon entering the dryer, and gradually reducing it by means of their successive compartment system until it emerged from the machine at the comparatively low temperature of 110 degrees, that the result obtained was in reality the same as by cold air drying. The grading of heat in the successive chambers produces a soft fiber, free from harshness when dry, which is due to the fact that on entering the dryer the stock contains its maximum amount of moisture, which effectually counteracts the bad effects of the high temperature to which it is subjected. The actual temperature of the stock at this stage of the drying is, however, much less than that of the air in the enclosing chamber. The greatest amount of moisture is, of course, evaporated in the first compartment, and as the stock passes on through the successive chambers the temperature is reduced to correspond with the amount of moisture still remaining, until the wool finally emerges from the dryer soft and lofty, as well as dry.

The machines range in capacity from 2,000 lbs. to 15,000 lbs. per day, and are built complete in such a manner that they can be readily taken down and shipped in compact form. The many Canadian mills in which they are installed have found a very welcome decrease in the cost of drying, as well as in the improved quality of the stock, since their use began.

### CARBONIZING AND DYEING.

The process of carbonizing wool has for its object the removal therefrom of such extraneous matter of vegetable origin as is accidentally mixed with the wool fibers, or which actually formed part of the wool as it existed in the previous condition of yarn. This process is one that should be carried out with careful attention to details, so as not to cause any injury to the wool fibers, which will then not take kindly to the colors, writes the editor of the Textile Mercury. When acids alone are used the trouble is reduced to a minimum, but the probability that overheating can take place is great unless care is used. Such wool fibers, when subsequently dried, do not offer any difficulty in dyeing, especially when used in conjunction with good wool stock, and dyed in an acid bath; but if carbonization has been done with some of the chlorides—say of zinc, aluminum, or even magnesium—then the traces of these substances left in the carbonized wool are quite likely to give rise to unevenness, unless proper and efficient washing is resorted to, which will in most instances prevent any trouble. Sometimes when such stock is brought into soap solutions or mixed with some stock containing vegetable or mineral oils, there is a liability to cause the formation of bodies that will repel the dyes and cause irregular shades to result. As a rule, the extracted stocks are never very satisfactory for anything else but blacks and other dark shades generally, into which enormous quantities find their way. The use of carbonized stock in making cloths is continually growing, and increasing the demands made upon dyers to satisfactorily cope with this grade of goods—to say nothing of the use of shoddy (cotton and wool waste mixture). For the proper dyeing treatment of these, we believe the alizarines are admirably adapted, although we have seen a number of recent samples of cheap cloths for men's wear that were made of shoddy of a rather crude quality, but the blacks, blues, and browns shown dyed upon them were excellent, and were obtained from another series of dyes entirely. Just how such fabrics would stand is an open question, but it is asserted that large quantities are sold.

### LITERARY NOTES

As the October Century appears simultaneously with the reception to Admiral Dewey in New York, the timeliest of its contents is Rear Admiral Sampson's hearty tribute to the hero of Manila, whom he ranks with Nelson and Farragut. This is preceded by an article of cognate interest—Lieut. Edward W. Eberle's account of the Oregon's great voyage. The frontispiece of the magazine is a portrait, drawn by John W. Alexander, of the Hon. John Morley, M.P., whose historical study of Cromwell is to begin next month. A study of Mr. Morley himself, by an anonymous M. P., accompanies the portrait. The number opens with a profusely illustrated paper on "Fascinating Cairo," by Frederic C. Penfield, late diplomatic agent, and author of "Present-Day Egypt." From the pages of his well-filled diary the Hon. John Bigelow has extracted a series of passages relative to the German statesman Von Bunsen, his friend and correspondent for many years, and to the group of celebrities to which Von Bunsen belonged. A picturesque view of "The Streets of Peking" is given by Miss Seidmore, with reproductions of many photographs. Major J. B. Pond relates his reminiscences of "A Pioneer Boyhood" in Illinois. Special literary interest attaches to the announcement of the winners of The Century prizes for the best poem, story and essay by recent graduates of American colleges. Last year women graduates of eastern colleges won all the prizes. This year all three are won by westerners, the prize poet only being a woman. The most interesting art feature of the number is Cole's engraving from