

they are ready to full. We will full these goods to the desired width and let them take up in length what they will, if any. Take them and properly wash them, following in this respect the same method as in the before-mentioned process, with the exception of speck-dyeing them if necessary. If the goods are flocked it is impossible that all the flocks, which are used upon the goods, should enter and felt into the body of the cloth, and what remains over is the residue, which is washed and dried and prepared for a second application. The seam where the two ends of each piece are sewed together should be made in small stitches. If the cloth is light in weight, the necessity for this is all the more apparent. Where long stitches, say an inch, are made, the irregularities will sometimes be noticeable for a yard or so of streaks into each end. After the goods are fulled—both time and care being given to the operation—a second scouring is undergone. This washing is accomplished without the aid of any more soap, since the soap which remains after the fulling is quite sufficient for the purposes. Warm water, from 100 degrees to 110 degrees F., will raise a good lather and clean the fabric. A careful rinsing, carried out on the usual common-sense principles, will close this part of the operation and prepare our goods for the extractor and the gig. The goods should be given a fair breaking at the gigs. When the gigging process is over, the nap may be evened up and smoothed on the copper before the goods are steamed. The steaming, which is done either on the steam gig or steamer, is a process which does not need to be rehearsed. Three or four applications of steam and an alternation of wet giggings will give the desired lustre and feel. After extracting and dyeing, brushing with a little steam and shearing will follow.

In shearing, success depends much upon the goods being in proper condition when they are put into the machine. For the most successful treatment of the nap, as it is acted upon by the sharp blades of the revolver, and the edge of the ledger blade, no condition is so well suited as that of a perfectly dry nap. As the dry fiber is more easily cut at the gig, so it is reasonable to suppose it is more easily cut at the shear. Thus, from the mere fact that the operation of shearing is more easily performed when the nap is dry, we may safely conclude that a perfectly dry fabric is indispensable.

The great point is to keep everything about the shear in perfect order. If shearing-machine men would take up this system of looking machines over oftener, there would be very much less trouble about breakdowns, says The Tradesman, and this periodical tearing to pieces would soon become a lost art that very few would take the trouble to rediscover. It is much better and easier to grind a knife often, taking a light grind, than to file and stub a knife in the machine, and then be obliged to grind heavily, at expense of time, waste of knife and emery stone, as well as the risk of spoiling the temper of the knife, and also throwing it out of balance. A keen edge, straight bevel, makes a knife cut freely; it is easy on journals and belting. We are now ready for the pressing, and set our press so as to give them a medium pressing, not too hard. The goods should be run face to the cylinder, for we do not want any lustre, and even what little we get by pressing the face to the cylinder should be carefully removed by steam afterwards.—Textile Manufacturer.

DYEING NOILS AND LOOSE WOOL.

Noils are frequently mixed with loose, uncarded wool, in order to simplify and facilitate the dyeing of such mixtures, and it is often a question of dyeing comparatively small lots. By a shortened process, time and fuel are saved, of course, but then it is a speculation with the dyer whether or not the process will succeed. The better way is to dye the noils and

the raw washed wool separately. If dyed together, the noils are almost always more felted than the wool, and the color of noils will almost without exception appear different from that of the wool. This is a serious defect if the material is to be used for uni-colored goods. Furthermore, the disadvantage arises, in the case of mixtures, that the noils, if strongly felted, mix badly in the carding process. To avoid the disagreeable consequences of this mixed dyeing, it is better to dye each material by itself. In the case of loose wool, it is still possible to recognize the nature and source of the material, which cannot be accurately done in the case of noils. It frequently occurs that different kinds of wool are combed together, and thus it happens at times that a quite strong fiber will be combed in with defective goods in order to make the latter more fit for the manufacturing process. It hardly comes into consideration whether the inferior material be long or short, fine or coarse; the main question is to secure uniformity in the felting tendency. If this be the case, it is easy work for the dyer. He has only to be careful, when dealing with well-felting noils, that in mordanting the bath be kept near the boiling point without actually reaching it. If in this way the mordanting has lasted one and one-half hours, and the noils still remain loose and have the appearance of not being felted, a half-hour's boiling will do no harm. Nevertheless, strong boiling is to be avoided. In the case of noils that have but a slight tendency to felt, one and one-half hour's boiling is permissible; but here, too, excessive boiling is to be guarded against, otherwise the weak felting tendency of the material will be still further weakened. As a rule, mohair noils felt most strongly in dyeing, so that in working with this material boiling must almost invariably be avoided and merely a seething temperature be maintained. In the dyeing out of the material the same cautious treatment must be observed.

If noils and wool are to be dyed according to one and the same sample, the best plan is to match each separately, and not to mix the noils and wool until dyed. In that way it is possible to give each material its proper attention. Precaution is likewise necessary in the case of uncarded wool, on account of its non-uniformity. The various colonial wools possess such an endless variety of characteristics that dyers are almost compelled to treat each wool according to its origin. For instance, one kind of wool comes from sheep that rest at night in the sand on the open plain. Such wool is usually not so yellowed as the wool of sheep kept in stalls. Then comes the feeding of the sheep, the washing of the wool, the health of the sheep, and whether the wool be live or dead. All this asserts itself very frequently during dyeing, in the most unexpected ways and in difficulties that involve all kinds of inexplicable phenomena. In spite of all pains and effort, the result can never be guaranteed; it can only be approximated, even if we work according to the customary and well-compiled recipes.

If noils be matched in dyeing and then an effort made to bring the same shade upon loose, uncarded wool, the working of the mixture for uni-colored goods will present difficulties only if great non-uniformity exist in the felting tendency of the two materials. If one material felts strongly and the other not at all, a good smooth felt cannot be obtained. The so-called felt, after completion, will be stubby, or, as we may say, not fully closed. Loose and dense places will show as if the object had been to produce rough, coarse goods. Whether noils and uncarded wool be dyed together or dyed separately, there is one point to be kept in view, says the "Deutsche Faerber Zeitung;" both materials must have the greatest possible uniformity as to felting, and they should be alike in other respects as well, such as fineness, etc., in order to assure proper preparation for the manufacturing process.