

this may be the experience under certain conditions, but we may rest assured that where it does occur, the fault does not consist in the fact that the operation has been undergone, but that it has been improperly manipulated. If the washing previous to fulling has been thoroughly done, and the fibres left perfectly free to be acted upon by the fulling elements, without at the same time having their natural properties impaired or destroyed, the fulling process simply cannot help but be expedited thereby. If, however, it is impossible to get the goods quite up to the point, this is somewhat atoned for by the very much superior appearance and feel of the fabric in question.—American Wool and Cotton Reporter.

### RENDERING COLORS ON WOOL FAST TO STEAMING.

Certain of the azo colors on wool undergo a marked change when subjected to the action of steam. As steaming is indispensable in the finishing of woollen goods, a method of rendering these azo colors proof against the action of steam would be of great value. The Manufacture Lyonnaise de Matieres Colorantes propose a method for effecting this result, and state that the change of shade is due to the transformation of the color from one group of azo dyes to another. For example, azo black turns red at first by reason of its combination with an amidoazic compound, the presence of which on the fibre can be readily demonstrated.

The Lyons company have conducted a series of experiments based on this assumption, and state that they have by the use of oxidizing agents succeeded in counteracting the action of the fibre on the coloring matter. Only those agents are employed which are not readily modified by the animal fibre before the steaming process. The bichromates and permanganates are not suitable on this account, while the chlorates, and such bodies as salts of copper, are found to answer the purpose perfectly. The process is very simple, consisting in impregnating the goods with the oxidizing salts; this can be done either in the dyebath or afterwards. The quantity of oxidizing agent used depends upon the depth of the shade and quality of wool. The following are the average quantities used: 3 to 4 per cent. sulphate of copper on weight of goods, and 5 to 8 per cent. chlorate of soda. When the copper salts are used, the goods can be washed either after dyeing or impregnation with the salts; this is not the case when chlorate of soda is used. Among the colors made fast to steam blowing by this method may be mentioned the naphthylamine blacks, naphthyl blue black N and anthracite black.—Textile Mercury.

### THE VALUE OF HUSTLING.

The value of getting out and hustling for a market for novelties was illustrated in an interesting way in the recent experience of a New England mill. Until three years ago, this mill had never made anything but the plainest kind of goods. At that time the treasurer concluded that it was time to do a little experimenting and he spent a day a week in New York and Philadelphia studying what was doing in goods made from yarns below 40s.

He was fortunate in employing a superintendent who was not afraid of anything ever put on a loom, and when he asked him one day about a certain kind of basket weave he was cheered into believing that the goods could be produced very readily and at low cost on machines that would cost but a trifle and could be used afterward in a variety of ways. Accordingly he took some orders in a small way for some coarse basket novelties and began producing the goods.

Presently the man who first gave him the orders asked

him if he couldn't get him out 100,000 yards of these goods immediately, and he was only too willing to make a try for the offer. He moved about a little, and he found that the converter who was using his goods had made quite a hit in the market with them as a dress fabric.

They had been sent to a Rhode Island finishing works, where they were mercerized and dyed in many different colors and were sent out ready for the retail market to be sold for 25 cents a yard. They netted the local manufacturer about eight cents a yard, and he was quite content with the profit he picked up on the order. It is needless to add that this treasurer has become confirmed in the opinion that with the help he can quickly gather about him in a centre like this, he can soon build up a distinctive trade in novelties and produce them in a mill that will be classed in the world as a print factory for many years to come.—Textile Excelsior.

### A NEW SOURCE OF INDIGO.

A patent has been taken out in France for extracting indigo from the leaves of a species of Lonchoarpus, which grows in and near Dahomey. The leaves are cut up small and allowed to ferment in water for from seven to twelve hours, according to the heat of the weather. By the use of filter presses, a clear, colorless liquid is obtained from the fermented mass, and is precipitated with lime—air being blown through the mass. The blue indigo is then obtained in the solid state.

To bring all impurities into solution, and to facilitate the settling of the indigo, the lime vat is boiled for about a quarter of an hour, at the end of the oxidation process. The liquid is then decanted, and the indigo blue is made into cakes, which are dried in the shade in the open air.—Textile Excelsior.

### USES OF MOHAIR.

Mohair is the trade term for that part of the hair of the Angora goat which is used in the manufacture of textile fabrics for upholstery or other purposes. Besides the mohair, there grows upon the Angora goat a short, stiff hair, which is technically known as "kemp." Its presence in mohair always reduces the price in proportion to the amount that is present. The reasons for this are various; the hair is coarser than the mohair; it is lustreless; it is of various short lengths and must be removed, in doing which there is a heavy loss of mohair, and it will not, except to a limited degree, take the dyes used for mohair. The properties which render mohair desirable for the textile manufacturer are its length, fineness, lustre, strength, elasticity and specific gravity. There is no difficulty in securing length and strength, but the other properties must come by the most painstaking care by breeding. Having length, strength and lustre, the manufacturer wants the fibre as fine as can be bred. Good mohair averages about one five-thousandth of an inch in diameter. After the mohair sorter has done his work with a fleece, the fibre is scoured, dried and straightened, and then put upon a combing machine. This machine separates all fibres, whether of kemp or mohair, of four inches in length and under. Kemp of a greater length than four inches remains with the longer mohair. If there is much of this long kemp after the first combing, the fibre passes through a second combing, the machine being set to throw out the kemp and mohair of greater length. The residue of these two combings being a mixture of kemp and short mohair, is called noilage. The mohair thus combed is