

may be able to paste enough of them on to have them come to weight, but how long will they stay on is the question. Certainly as soon as the goods are handled they will begin to drop out, and this will not stop till all has dropped out as the goods are worn. But the great thing sought after it seems is to get the goods out of the mill with enough flocks in them to have them up to weight no matter what happens afterward. Here is the place to employ a good quality of flock and the goods will be so much better for the use of them that the reputation of the firm will be enhanced and in the end if things are figured close, there will not be such a great difference in the cost. This leads us to the consideration of the problem of good and bad flocks. Now it is a very hard matter to determine the value of flocks until after they are used, for even if the flocks are made of good stock the chances are that they have been spoiled at the cutting or rather the grinding, as it should be called. The value of a shear-flock which is recognized as the best quality, is due to the very reason of their being cut by sharp knives and not ground, thus retaining all their felty capacity intact even if the fiber is shortened. The grinding process of the average flock cutting machine is detrimental to the felting property of the wool fiber and therefore too much care cannot be bestowed upon this machinery. Flock-cutting machines should be kept as sharp as possible, and by reversing frequently and paying due attention that no foreign matter gets to the knives with the stock, it will be easy to keep them in good condition. The best of stock is easily spoiled on dull machines, and the trouble will show itself after the goods are finished, when it is too late to remedy the matter.

#### CLOAKINGS.

There is a class of cloths made for ladies' cloaks and coats and capes, that is of fairly open texture, with some nap, and with good draping qualities, which might be profitably noticed. These cloths somewhat resemble kerseys, but they are not kerseys. They are lighter in weight, and the nap is rather a thread nap than a nap worked up out of the body of the felt. This peculiarity gives the goods an open and pliable finish that makes them much more appropriate for this design. A cloth that does not drape well and does not fit properly into the form is not a cloth that is altogether successful as a cloak cloth, writes a correspondent of *The Boston Journal of Commerce*. But such is not the case with the goods in question. The cloak goods in question finish about twelve ounces to the yard, and are not felted to any appreciable extent. This lack of felt and body adds quite considerably to the value of the cloth for many purposes. If the cloth is rightly laid out and made in the looms there will be very little fulling to be done, in fact in most cases the cloth hardly needs to go up in length at all. Then the weave is so simple and the stock usually of such value and quality that very few imperfections appear. The result is, that the initial processes are by no means of as much importance and significance as in many fabrics. When these processes have been gone through with the cloth is ready for the fulling.

The slight kind of fulling that is required makes it desirable, along with other considerations to run the goods double in the mill. The piece is laid out, or measured so that the center can be found, and then this is tied with a string. The end is run in over the roller until this marked place comes up, and then the other end is started. When the two ends come together they are sewed together, and the piece is then doubled ready for good work. As felting lengthwise is to be merely a nominal matter, the soap has got to be carefully chosen. Little of it as can be employed, and no heavy bodied articles, is the rule. An olive-oil soap of good quality will be most likely to

meet all the needs of the case. If they are run about three-quarters of an hour in the mill with a good soap capable of acting on the wool oils that are used in the early processes, the work will be satisfactory. There will be some trouble just here if the lubricating oils have been badly chosen or if alum has been used in the carding. If good oil only has been employed, that is, an oil that will combine or be acted upon by the soap in the mill, it is well to start the grease while the goods are yet in the mill. They must not be made too damp with the soap in the mill, but enough must be used to give even and uniform work and also to start the grease. At the close of the allotted time of fulling, the cloth, since traps have been open, will likely be found to have stretched considerably in length. This tendency must always be carefully watched, for varying weights of goods will likely come out in very different conditions unless the fulling is regulated by quantity and quality of soap and by the length of time during which the goods are kept under action.

When the cloth gets to the washer it will take a liberal and generous application and use of warm water to remove the dirt, grease and soap; and unless all traces are removed there will be trouble in the dyeing, for these goods are usually dyed in the piece. After the water and soap have been well used in connection with the goods a bath or a run in a fuller's earth solution will very much help in making the goods thoroughly clean, and in producing a neat and desirable finish. In making the solution do not attempt to make it any stronger than a pail of the earth to a barrel of water. Any larger proportion will not thoroughly dissolve and the result will be a deposit on the goods that is disastrous. Ten minutes in the earth solution will take away all traces of soap and dirt, and at the same time will add very much to the life and beauty of the finish. Rinse thoroughly, extract, and roll up tightly and allow to lie all night in this shape; then in the morning the gigging may take place.

The fact that there is no felt on this class of goods, and therefore little or no nap to be handled, makes the gigging less important than it often is. A medium class of work and gigging only one way are what is required, and gradual increase in the sharpness of the work will complete the process. The steaming follows this operation and must be very thorough. In fact, it is sometimes advisable to give two or three, or even four applications of the steam before the desired finish has been attained, and then besides the number of applications it is also well to reverse the goods and steam again in this condition. Each steaming should be alternated with a cooling, and in this way the effect of the steam is allowed to fix itself upon the cloth and fibers.

The dyeing now follows, and if need be the treatment of burrs and specks and then wet gigging takes place. This operation must also be thorough, with a liberal use of water; and after it is completed the goods are again rolled and allowed to stand all night. Next morning extracting and dyeing are undergone and brushing and back burling prepares the goods for the shear. As with the gigging also with the shearing, we find that the light fulling and absence of felt has made the operation little more than routine. All the shear is expected to do is merely to even up the nap, and leave it practically as it is already. Brushing with steam follows and then the piece is ready for the press. The pressing must be thorough, the goods are run face down, and the finish must be well set. On this process much of the permanence and wearing quality of the finish will depend. Steam off the worst of the gloss after pressure and then when cool they are ready to be rolled and prepared for the market. The result will be a clean pliable handsome fabric which sets well on the figure and makes a most useful cloth for cloaks and jackets for women's wear.