MILDEW.

Whenever wet or moist materials are allowed to lie for a time in a high temperature the conditions are established which produce mildew. The heat and moisture induce fermentation, and the product of the fermentation is a fungus which destroys the color of the goods, and will, if the process is allowed to advance far enough, destroy the fibre itself. It is noticeable that mildew is more apt to attack moist pieces that are heaped up, as the pressure upon the irregular folds prevents the circulation of the air, and at the same time causes heat. During the first stage of mildew the fungus may be removed by energetic washing or chloring, without injuring the fabrics. In the second stage of growth the fungus cannot be removed and leaves a stain, but the fibres in the fabrics are not weakened. In the third stage the fibres are weakened and destroyed, and the fulling, washing and gigging produces holes in such places.

Mildew is most frequently found on grey or white cotton goods, and white or light vat blue woolens, to be dyed in the piece or printed, and there it causes great damage by its resistance to the dyes. Even in dark indigo-blue dyed goods mildew sometimes destroys the color. Goods which are dyed upon boiling baths are found to be less liable to mildew, in all probability because the boiling either removes or converts into other forms such impurities as may still adhere to the fibre. In the colors other than indigo the mordants, such as alum, tartar, bichromate of potash, etc., which are used, are preservative. In indigo dyeing the nature of the dyestuff itself promotes fermentation.

Unless goods are washed without delay when they come from the loom or fulling mill, there is danger of mildew. Remnants of suint, dyestuff, oil or dressing, which are some of them natural to the wool and others deposited in the process of manufacture, contribute materially to heating the goods when combined with moisture. If the goods are left in an ill-ventilated place, sometimes twenty-four hours are enough to start the growth of the fungus. It has often been noticed that light vat-blue goods, when carbonized with sulphuric acid, are not nearly so liable to mildew. Carbonizing is strongly recommended, not only as a preventative, but even as a curative operation, as long as the development of mildew has not passed the first stage. Care must be taken not to leave washed cloth for any length of time on the bottom of fulling or washing machines. In many cases the wood in these machines is already in a state of decomposition, and assists in the production of mould spots. In the same way old cloth horses with partially decayed frames are dangerous even to fully cleaned cloth. Cloth manufactured from dirty wool is in great danger after wet gigging, if it lies for any length of time closely piled together. When cloth is wet it is more dangerous to leave it smoothly folded than if it is loosely heaped up.

The action of soap upon fulled cloth is often the cause of as much damage as is that of sizing in crude

material. While the decomposition of the fibre and dyestuff by the soap differs from the production of mould in the first place, yet a few hours storage of fulled cloth will often produce spots of larger size and more injurious character than would be the case in When fulled cloth cannot be placed at crude cloth. once in the washing machine, it should be washed in The woolen manufacturer should the fulling machine. be always on his guard against delays. When they must occur, dry the wet pieces as soon as possible. There is a notion prevalent among cotton manufac. turers that mildew stains cannot be removed from cloth with soap and water, and that this may be used as a test for mildew. This is incorrect, as the washing out of mildew stains all depends upon the stage of growth to which the fungus has attained and the looseness and proportion of the size present. Almost any bleaching agent may be used with advantage in treating mildew stains.

STREAKS IN WOOLEN GOODS.

Among the many evils which may arise in the process of manufacturing woolens, injuriously affecting their appearance and finish, the production of a streaky cloth is one of the most serious.

When the streaks are not due to difference in color, the causes often exist in the cloth before it comes to the finisher at all, says the *Textile Mercury*.

Differences in twist, or tension of the warp threads, are fruitful sources of streakiness, and in certain lots of stock may be the most likely causes. The matter of tension, when the goods are being beamed, or woven, will be very apt to cause so great a variation in the face that the fulling will lead to variation in effects. This sort of streakiness will not appear unless it is on a two-and-two twist, or some such class of goods. There the variation will be more apt to cause a shade, when on a solid color, or on an ordinary yarn, no variation would be noticed. If a yarn has any tendency to be unevenly twisted, there is the same liability to streakiness when it gets into the warp. The fulling mill is often the source of streaks. The warp, the flocks, or the mill itself, may be the cause of the defect. If the scap is poured on to the goods from a spout, and the goods allowed to run into folds and remain there during the fulling, streaks will appear. The flocks will act mainly along the line of soaping, and when short fulling with little alteration in position of the goods is given, streaks result. This bunching of the goods or letting them run in folds without frequent opening out, also streaks the goods from the more perfect felting of those parts of the goods which have been most exposed to the friction of the pulleys and the sides of the mill.

In the washers there is very little to fear from this form of defect, if the machine is in good condition. Bad eyes for the cloth to go through, or ruts and grooves in the rollers, must be guarded against. Very often the defects are caused by the careless manner in which the ends are sewn together. A bunchy, bumpy