

BLEACHING BY PEROXIDE OF SODIUM.

Sulphur bleaching is not absolutely successful, the color cannot be claimed to be permanent, and the odor which sometimes clings to the goods, undeniably is so. Many substitutes have been found which are successful bleaching agents, but are debarred by cost from becoming competitors of established processes. A company which has an extensive chemical works at Niagara Falls, N. Y., is now placing on the market a new bleaching agent—peroxide of sodium—which the bleaching depends on the action of the available active oxygen on the coloring material, while there are no injurious compounds formed to hurt the fiber. The oxidation processes have none of the disadvantages of the older methods, but have until lately been debarred from extensive use by their cost. This is still the one prohibitory feature of the hydrogen and barium peroxide processes, while with peroxide of sodium this last barrier is removed. The ideal bleaching method should possess the following qualities:

It should bleach to the shade wanted; leave no foreign odor, leave goods in perfect condition for dyeing, not injure the goods or make them tender, the bleach obtained must be permanent, it must be simple to carry on, and require only ordinary attention, it should consume little time and labor, it must be cheap. These requirements are all of vital importance in the bleaching of good material. A process which fails in one of them is doomed, and will be superseded in the near future by methods which do possess all these qualities. The peroxide of sodium process, by four years extended use in Europe and in America, has been proven to possess all these characteristics.

PIECE DYEING.

One of the most delicate operations in the preparation of woollens for the market is this dyeing of the fabric in the piece. It is so easy to make colors off shade, so easy to get clouds and blotches in the same piece, and so easy to turn out the different pieces so that in some slight respect or other they will fail to match, that the whole operation becomes very difficult and very troublesome, says a writer in an exchange. The trouble is that oftentimes the foundation for these uneven effects is laid in the earlier details of treatment, and then when the dyer and finisher get hold of the goods the mischief is already begun. This would not be so bad, perhaps, if there was any possibility of passing over a slight error or a slight departure from the mark of a perfect piece. But in piece dyeing it is a well-known fact that the piece is subjected to the most rigid inspection, and then the least failure to come up to the mark is noted and observed. The goods are looked at in all lights, they are tested in all ways, and in every respect the demands are most rigid, so that the least imperfection carries with it its judgment of woe for the poor dyer. The particular thought we wish to dwell on is "cloudy goods." It is an evil that has at some time or other darkened nearly every dyer's skies, and like the thunder bolt it is likely to peal out at any time. There must be a cause, a reason, for cloudy effects in woollens. The important and all-essential thing is that we get at that reason.

In nine cases out of ten when clouded piece dyes are being produced we look most naturally at the scouring in the finishing room to get at the seat of the difficulty. This is not strange. The scouring is, on the surface of it, supposed to take everything out of the cloth that does not belong there. But when you look into it, it would be nearer right to say that the scouring is expected to remove all the foreign substances in the cloth that the ingredients used in the scouring will attack and loosen. This is technically all we have a right to expect from the scouring, and if we look for more we will be disappointed. Suppose now that some material or other has got into the piece that the scouring substances will not touch. In this case it is manifestly impossible to remove it, and yet the finisher cannot be blamed. At any rate, he cannot be blamed if the material is one which really has no right to be there, or which is put there without his knowledge. Then, again, suppose there is a weakness along one particular line in the scouring liquor, and just in that line the goods happen to need all the strength in the liquor that can possibly be brought to bear. Here is a case, too, where defective scouring will result not from the process

being imperfectly done, but from the conditions of the cloth and liquor not being suited to each other.

The scouring is not to be altered by any means just because a piece or two happen to come along with clouds in them. I have known scourers who would increase the alkalies used as soon as such a condition arises, but it is always a question whether that is a wise plan, for too much alkali is just as likely to make bad work as too little, and while the excess might work all right in one grade of goods it would work all wrong on another. It is just as well to keep to the old methods of scouring if they have always worked well, and look for the causes of the cloudy appearance elsewhere. More than likely the cause will be found somewhere else. If anything has gone wrong in the goods previous to this stage, it will usually manifest itself in harder work being necessary to get the goods clean. Now, if we find that a class of goods is getting to require more work to get the dirt out we must begin to exercise care and caution. The trouble may be away back in the preparation of wools, or it may be in some of the earlier manufacturing processes. But at any rate it is the finisher's business to find it if he possibly can.

In the wool scouring, if too little alkali or too much has been used, the result is liable to be a wool that will make hard scouring when it gets into the piece. Too much alkali is worse than too little, and when too much has been used the grease is liable to stick to the goods in such a way that the piece scouring can scarcely remove it all. A further feature of the use of a hot excessive amount of alkali is that it acts as a mordant upon the fiber, and as the mordanting is of course done unevenly, the colors when they come to be applied to the goods are uneven too. In connection with an excessively large amount of alkali, a hasty drying at a high temperature will sometimes produce effects which result in clouds. The best plan is to take time in the drying, and dry only when it can be done at more moderate degrees of heat. The combined action of alkali and heat has an effect upon the fiber that cannot help but be noticed in the way in which it will take the color. If color is a mechanical action, and not a chemical, it is quite evident that the physical condition of the wool fibers will affect the shades. Anything that will act upon the wool fibers so as to alter their physical formation will have more or less of an effect upon the way the fibers will take the color. This all, of course, means shady or clouded goods when piece dyeing takes place. Other features of this difficulty may be noted later.

NEW ANILINE COLORS.

Direct Yellow R—This new color, as the name implies, is a direct dyeing substantive dye, which dyes cotton full yellow shades with the aid of common salt or similar mordant. It resembles Chloramine Yellow very closely, but is somewhat inferior in fastness to light. Direct Yellow R is, however, superior to Chloramine Yellow in its coloring power, and on this account will be found to be more serviceable in certain combinations where a yellow at a very low cost is desired.

Jute Yellow G—This color is only suitable for jute, on which fiber it produces a full old gold shade, which is quite fast to rubbing. The method recommended for dyeing is as follows: Directions for dyeing 100 lbs jute yarn—Dissolve 2 lbs. Jute Yellow G in water at about 140° F., add this solution to the dye bath, enter cold and gradually bring to 140° F., at the same time working well, rinse, but not too long, and then dry.

Benzo Nitrol Dark Brown N—Information was given some time ago in this paper regarding Benzo Nitrol Brown, the above color Benzo Nitrol Dark Brown N is a new addition to this series of fast to washing cotton browns, by that new process of developing already described, viz., by dipping cotton material dyed with the above color, or any of the other direct dyeing cotton colors which are named in our pattern card, into the diazo solution of Paranitraniline. The following colors are also suitable for this after treatment, viz. Chloramine Orange G, Toluylene Orange G, Direct Fast Brown B, Pluto Black B, Direct Blue Black B, and Toluylene Brown R. A special pattern card has been prepared, in which the tests can be removed in order to test their fastness to washing. The Nitrol colors are suitable for dyeing velveteen, in consequence of giving such full shades. With this color, oxblood shades can be produced on hosiery, so much in fashion now.