DYEING SHEEP-SKIN RUGS.

Before the advent of the artificial dye-stuffs brush-dyeing was practised for small skins and fine rugs, and dip-dyeing for such skins as were used for rugs. The application of the new dyes required strong mordants and high temperatures. Both these requirements forbade the use of aniline dyestuffs for furs or pelts.

In order to obtain a skin with a colored fur but clear leather, the most primitive experiments were resorted to. After bleaching, washing, and dressing, the skins were stretched out upon wooden frames, and suspended over the bath, which was prepared as for wool-dyeing, and then lowered upon the surface of the liquid in such a manner that only the wool or hair dipped into it as close as possible to the leather, but not touching it. Tubs of uneven dimensions had to be used; as no boiling was allowed and the baths could not conveniently be stirred, they had to be very concentrated. The dyer had no alternative but to allow the frames on which the fur was stretched to stand upon the moderately warm baths for an indefinite time, until the fur absorbed some of the dyestuff.

The dyeing was naturally extremely slow and limited, as long as it was considered undesirable to dye the leather, too, and it was thought a sign of bad workmanship if there was a speck of color on the flesh side.

New processes of dyeing were then discovered which consisted not only in the application of a specially-prepared dye, but in the production of a dyestuff upon the hide of the fur itself, and with the invention of the chrome-tanning process went the discovery, hand in hand, that a dye containing chromium might be applied to fur by the dip-dyeing method, at a temperature up to 90 deg. C. without injuring the fur or the leather.

The dyeing of furs was, before this, almost exclusively effected by the use of extracts of dyewoods, because the affinity of the material for artificial dyestuffs is insufficient and the application of the high temperature which is required for them was prohibited by the sensitiveness of the skins to heat.

The firm of Leopold Cassella & Co., of Frankfort-on-Main, Germany, have now worked out a process of preparing fur skins by which the difficulties formerly existing are overcome and furs can be dyed in a simple manner with artificial as well as with natural dyestuffs. This process consists of a double treatment, viz., of tanning the skin with chromium, and subsequent chlorination of the fur. Heretofore these two methods were followed separately, but the intended effect is only produced by applying these reactions consecutively, as evidently this combined action causes a very different chemical characteristic of the furs from that of the separate single action. Even readily soluble tar dyestuffs can be completely fixed upon fur which has thus been prepared. The chromium tanning process may be variously modified in practice, and the treatment with chromic salt has been found to be most suitable. The new process may be illustrated by the following example. The alum and salt-tanned sheepskins, weighing about eight kilos, are wetted with lukewarm water, and for about one-half hour washed in a solution of 150 g. soap in 100 litres water, rinsed once and immersed in a bath of 100 litres water containing 50 g. chromium chloride, 100 g. basic sulphate of alumina, 100 g. common salt, and 250 g. acetate of soda crystals, until the skins are thoroughly penetrated. Then 100 g. more chromium chloride is added, and after remaining in this bath for twenty-four to thirty-six hours longer, the skins are rinsed and squeezed out. They are then, for a quarter of an hour, laid down upon a bath of cold water containing one kilo hydrochloric acid per 100 litres, pressed off and entered into a cold bath of 100 litres water containing 100 g. chloride of lime and worked for twenty-five minutes, when 300 cubic centimetres hydrochloric acid is added, the skins worked for ten minutes longer, and returned to the first acid bath, to which half a litre more hydrochloric acid has been added. After working the skins for a quarter of an hour, they are rinsed in cold water, and to completely remove the last traces of chloride they are more rinsed at 30 deg. C. in a bath containing 300 g. sodium hydrosulphite, and finally three or four times in pure water and hydro-extracted, when they are ready for dyeing.

The dye-bath is heated to 50 deg. C. and prepared with, say, 320 g. Alizarine Black 4 B (4 per cent. of the weight of material), 20 g. (¼ per cent.), Orange ENL, 800 g. calcined Glauber's salt, and 400 g. acetic acid. After entering the skins the temperature is quickly raised to 75 deg. C.; after a quarter of an hour 80 g. bisulphate of soda is added and dyeing continued at the same temperature for three-quarters to one hour, when the skins are laid down in the bath and allowed to cool in the same, then carefully rinsed, hydro-extracted and dried.

The skins are then moistened in damp sawdust, and softened as described in articles on fur dressing. The concentration and composition of the chromium solution and the degree of chlorination always depend upon the natural condition and the fresh tanning of the fur skin.

With this preparation of the skins, all coal-tar dyestuffs for wool may be applied, both by the brush and dip methods. As the chromium contained in the skins serves as mordant for most of these dyestuffs, no special mordanting is required and no special recipes for dyeing need to be given. The temperature of 75 deg. C. should not be exceeded, although in some cases it may be raised to near 90 deg. C.

The choice of artificial dyestuffs for fur dyeing presents no special difficulties, though not all furs take the dyes in the same manner, and the dyer must learn, by experience and observation, which colors are best adapted to the different furs. Some fur always dyes stronger on the upper part of the hair than near the root: others dye even from tip to root, and others again take the dye, although quite evenly applied to the entire skin, principally near the bottom. The longer and softer the hair the darker the upper part usually dyes, and the harder the hair the lighter remains the tips and the darker becomes the under part.

Chysoidine probably excels all other artificial dyestuffs in affinity to the fur hair; very small quantities of it give, without any addition, a fine clear yellow, resembling the shade of mink; greater quantities give a brilliant orange. All other basic dyestuffs dye up only to a limited intensity, so that dark shades cannot be dyed with them.—The Boston Journal of Commerce.

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