

mache than on metals. On the former the varnish becomes thoroughly incorporated with the paper, and does not flake off; but the varnish cannot sink into the metal, and often separates in flakes or scales, if the article is subject to anything like rough usage.

Wood intended for japanning must be well seasoned, cut nearly into the required forms and exposed for several days to a gradually increasing heat in the japper's stove. The articles are then finished as to form, and again stoved, after which the cracks are stopped with putty or white lead.

A priming of size and whiting is sometimes used, which is laid on with a brush made of bristles, and left a day or two to dry; it is then made smooth by rubbing with rushes and a wet cloth. When this is quite dry the grounds are laid on, and finished as before described. This priming is considered very objectionable, as the japanning is more likely to crack than when executed directly upon the surface of the article.

For japanning works in metal, they are cleaned with turpentine to get rid of grease or oil, unless the oil should be linseed, in which case the articles are stoved until the oil becomes quite hard. The japanning then proceeds in the usual manner.

Engravings, especially prepared for the purpose upon fine paper washed with a solution of isinglass or gum, are sometimes transferred to japan work with beautiful effect.

In japanning articles of papier-mache, they are first done over with a mixture of size and lamp-black, and afterwards varnished. The black varnish for these articles may be prepared as follows:—some colophony, or turpentine boiled down till it becomes black and friable, is melted in a glazed earthen vessel, and thrice as much amber in fine powder is sprinkled in by degrees, with the addition now and then of a little spirit or oil of turpentine. When the amber is melted, the same quantity of sarcocolla is sprinkled in, and the ingredients are stirred, and more spirits of turpentine is added, until the whole becomes fluid; it is then strained clear through a coarse hair bag, pressing it gently between hot boards. This varnish mixed with ivory-black in fine powder, is applied, in a hot room, on the dried paper paste, which is then set in a gently heated oven, next day in a hotter oven, and the third day in a very hot one, and allowed to remain each time till the oven becomes cold. The paste thus varnished is hard, durable and glossy, and is not affected by moisture or even by hot liquids.

In the better class of papier-mache goods, various coats of varnish are sometimes laid on, and the article stoved after each varnishing. The

article is next smoothed with pumice stone, and the artist then steps in and ornaments the work in bronze powder, gold, colours, &c., after which several coats of shell-lac varnish are added, and the article having been stoved at a heat of 280°, is polished with rotten stone and oil, and finished off by hand rubbing.

Various kinds of japanned leather, commonly termed *patent-leather*, are used by coach-makers, harness-makers, and shoe-makers. For these, carefully selected skins, as free from blemishes as possible, and curried with less grease than is required for other kinds of leather, are tacked on frames and coated with a composition composed of 18 gallons of linseed oil and 5oz. of umber, boiled nearly solid and then mixed with Spirits of turpentine and raw oil. To give colour and body to this composition, a sufficient quantity of lamp-black is added. Three or four very light coats of this composition are laid on with a knife of suitable form, each coat being dried perfectly before the application of the next coat. A thin coat of this same composition, with a sufficient quantity of lamp-black boiled in to make it a perfect black, is then laid on with a brush, and thoroughly dried as before. After being smoothed off by the use of a scraper it is ready for the varnish.

The varnish for this purpose is composed of linseed oil and prussian blue, boiled to the thickness of printer's ink, two or three coats of which, brought to a proper consistency with spirits of turpentine, are applied with a brush. After becoming thoroughly dry it is rubbed down with pumice stone until it is perfectly smooth, when the finishing coat is put on with great care, in a warm room free from dust. The frames are then run into stoves or ovens heated to 150° to 170° Fabr., so as to dry as quickly as possible, and prevent the absorption of the varnish by the leather. Great care must be used, however, not to injure the fibre of the leather by too intense heat, as is too frequently the case with American japanned leathers. The English and French leathers are much superior in this respect, and also in not being so free from grease as the American leather, whereby they retain a greater pliability, and are less likely to crack while being manufactured into the various articles for which they are required, or in after use.

The following list of coloured grounds, suitable for the japanning process, may be found useful to any who are now, or intend to be, engaged in this branch of manufacture in the Province:—

*Red*.—Vermilion makes a fine scarlet, but its appearance in japanned work is much improved by glazing it with a thin coat of lake, or even rose pink.