Marbling Calf.

MARBLING is the most difficult of all the processes of staining calf, requiring especially, skill, in getting the water to flow sufficiently to carry the colour, yet remaining long enough on the leather to prevent the colour striking in as it falls; and, after obtaining the necessary fall of water, speed in action when applying the sprinkle; and a quick decision when enough has been applied.

Always clean any other work well out of the way of the splashing, and get up into a corner where no draughts will drive your sprinkle away from the work for which it is intended. If you have only an occasional job you may make shift with a lap-full of shavings thrown under the rods to catch the water, but it is best to have a tray made of wood and lined with zinc, say about 4-ft. 6-in. long, by 2-ft. 6-in. wide, and about 3-in. deep.

For marbling, always prepare fresh colours made according to the directions given in the October number, and proceed as follows:

STONE MARBLES.—Paste-wash and brown as usual; when thoroughly dry, glaze evenly all over with a soft sponge, slowly, so that the glaze will not froth; a few drops of good milk in the glaze will help to prevent frothing, or you may smear a little lard on the back of your left hand and touch your sponge on that at intervals. While the books are drying, prepare and set in order all that you require.

Your trestles should be about the same height as your knees with two flat rods stretched across from one to the other of, say 1 1/2-in. in width and 3/4-in. thick. Place them in the tray.

On your right, as you face the trestles, have a pail full of soft water with a large sponge in it, about the size of your hand. If the water is not soft, crush up a piece of soda about as large as a walnut and put that in. Close by, a clean saucer or glazed tile, or piece of glass for the sponge to lie on. Also a bunch of birch, about a third of an ordinary birch broom, tied up and the thin and damaged ends cut off; or a bunch of the yellow stalks from an American carpet broom will do, but nothing beats the birch.

On your left place the two jars of colour, with the brushes beaten out and lying ready for use on the top of each.

Now take the books and apply pieces of stout paper to cover the lettering panels, with a little paste, just sufficient to hold them on. Then put a book between the rods, with a piece of wood under each side, head and tail, sufficient to raise it so that the water falling from the back will flow towards the foredge on either hand. A very slight fall is all that is necessary but the exact gradient can only be determined by experience, as sizes of books vary.

Dip your birch in water charging it with as much as it will carry, and shake it over the back; as the drops unite they will flow down over the sides in little streams. When they are all in motion is the right moment; up with the brush of black and holding it high beat it out evenly over the surface; when you see the colour striking in and before it becomes deep, lay down that brush and seizing the brown give a good sprinkle from that also; down quick; then grasp a full sponge of water and squeeze it out all over the back so that it carries off all the water and colour which has not struck in; then lift the book from the rods, being careful of the edges, and wipe off the superfluous damp and the paper on the lettering panels. Stand up to dry.

That is the simplest method of marbling, and you will observe after it is finished that as the water flowed, the colour was drawn with it leaving veins instead of spots, such as you see in marbles, varying in intensity of hue, while between the veins there is a ground work of sprinkle. Now by studying the principle by which the effect is gained you may be prepared for higher efforts. If your colour does not make the cloudy veins, there is either not enough water thrown on, or it runs off too rapidly, or you are not quick enough with the sprinkle. To cause the water to flow more slowly, lower the back a trifle; the other causes you must remedy by closer application. Remember, the colour must be thrown on to running water to make a good vein, so all your efforts must tend to keep the water in motion while you are sprinkling and sprinkling while the water is in motion, for you cannot depend upon a second application of water.

There are other colours which may be applied in marbling which will more or less imitate certain stones; the best are the following:

Green Agate.—Paste-wash and brown as usual. Put a half-quartern of the black into a full pint of water and mix thoroughly. Use a very full brush, not beaten out, and sprinkle heavily till the drops unite and flow, then squeeze from a sponge some green into the streams so that they flow together, and when they have fairly struck in, drench with water as before. For green use this: 1-oz. verdigris (acetate of copper) in 1-oz. of white wine vinegar; keep it in a bottle close to, or on, the finishing pan for at least a week, just close enough to keep it warm, giving it a good shake up at frequent intervals.

Red Porphyry.—Paste-wash and brown as usual but rather darker. Mix a half-quartern of black in a full pint of water and sprinkle with a fairly coarse spot. Let it dry, give it a good brushing and then glaze evenly all over. Then a very heavy sprinkle of fine red and follow with a fine sprinkling of scarlet; let that thoroughly dry and finally sprinkle with a medium sized spot of scarlet as equally as possible. For red use: ½-lb. Brazil dust, and ½-oz. powdered nutgalls boiled in three pints of water for twenty minutes. Strain through a piece of muslin and replace the liquid on the fire, add 1-oz. powdered alum, and ½-oz. of chloride of ammonia; boil up afresh and then add a little aqua regii according to the shade required, and use the mixture warm. For scarlet use: Put 1-oz. of white nutgalls and 1-oz. cochineal—both finely powdered—into a quart of boiling water and boil for twenty minutes, then add ½-oz. of aqua regii.

Aqua regii is a mixture of nitrous acid (aqua fortis) and muriatic acid (spirits of salts) and is a dangerous explosive. It is known to chemists as nitro-muriatic acid and generally sold very much diluted. You want
it pure, but with its burning properties killed, so ask for nitro-muriate of tin. If a chemist has not got it he may get it for you, or you may buy say 3-oz. of pure nitro-muriatic acid and kill it yourself as follows:—
Put the acid in a bottle with a wide neck; buy 2-ozs. of pure tin and place it in a ladle or crucible and melt it. When in a molten state pour it into a tub of water when it will separate into flakes making feathered tin. Drop this feathered tin piece by piece into the acid which will consume it, until effervescence ceases, when it is fit for use. Beware of the fumes, which must be kept in as much as possible, but some vent given, so place a piece of glass three parts over the neck of the bottle.

When this lengthy operation is completed, preserve the aqua regia in a stout bottle with a glass stopper.

In our next number we shall complete these articles with an explanation of the method of Tree Calf Marbling.

A Few Words on Backing.

It is a feature in the art of bookbinding that it is hardly possible to carelessly execute, or in other words, scamp, any one process or department, without the work, as a whole, being the sufferer by it. For instance, it matters little what taste or skill be displayed in the finishing department if the forwarding in any of its details be faulty, or vice versa, and the process of which I now treat, viz., backing is one of those requiring more than the ordinary care, albeit it seems to be one of those whose very principle seems so little understood, or if understood, seldom carried out. During a long acquaintance with bookbinding and binders generally, it is somewhat curious to notice the different methods that different binders have to obtain one common end, viz., a groove. I have ere now seen a workman in the most careful and methodical manner place the volume to be backed in the press and screw it up, having done which, without the least regard to consequences, he will, with the hammer, drive on to the middle and centre of that book as though his only ambition was to drive both book and backing boards down into the tub. Another will waltz all over the back without any systematic regularity—in fact, anything and anyhow, so that he gets a groove at the finish, and ending with the result, that is quickly seen on opening the volume, of a grand series of irregular indentations in what should be one straight crease from head to tail. Another will pound at the end-sections and end-papers with the front instead of the face of the hammer, to the quick ruin of the backing boards and great risk of cutting the end-papers. Other elaborations of the principle—or want of it—of backing might be given, all more or less opposed to the end in view. That a good deal does depend on the manner a book is sewn as to the ease with which the process shall be carried out is evident; for instance, a considerable amount of swell in the sewing with the kettle-stitches drawn very tight will often cause a workman to use his judgment to prevent too much round coming on before he starts backing, and being so tight at the kettle-stitch is very likely, if the back be at all dry, to cause them to break. It is no unusual thing in some shops, where there are indifferent sewers, to find in some cases that the middle of the book is comparatively slack and swollen whilst the tension on the ends is very great. This will, of necessity, have a tendency to prevent the sections folding over each other in backing at the two extremes, and as I said before the liability to give way here is great.

Now it is obvious that the process should commence in the centre of the back, and this should be done by administering a continuity of rather mild blows with the hammer right down the middle, but used in such a manner that the force is applied not directly downwards but towards the end-papers, and the hammering should proceed straight along from end to end of the book—the judgment of the workman will decide how far its effect is felt—and it is continued until the end-papers are reached, increasing the force of the hammer as it is gradually worked towards the edge of the boards, when a close and rather heavy series of blows bring up a clear sharp line. Starting again in the middle the same process is repeated on the other side, and this, if executed in a workmanlike manner, will give in any part of the volume a perfectly straight crease, and not a series of broken ridges with the sections driven into each other at short intervals, so frequently met with, to the detriment of the book opening flat. It is a material point that the back be not allowed to get too dry after being glued-up before backing is commenced.

Interesting and Useful Books.

Several years ago the writer, travelling abroad, visited a monastery, and among other curiosities shown him was a series of bound volumes, the sides of which were made of polished boards from the forests of the country, showing the grain of the woods. At first sight the volumes presented the aspect of bundles of wood. But after a more careful examination it was found that they contain a detailed account of the trees that they represent. On the back, the bark has been detached in order to describe the title of the book by its scientific and its common names.

One of the pages is formed by a broken piece of the wood of the tree, showing its fibres and natural fractures; the other shows the wood when it has been polished and varnished. At one of the ends the fibres are seen as they remain after the passage of the saw, and at the other, the wood finely polished. Upon opening the book, the fruit, the grain, the leafage and other productions of the tree, the moss which generally grows on the trunk, and the insects which live on its different parts are seen. Added to this is a well printed description of the habits of the tree, the places where it grows, and its method of growth.

If a book is much stained it may be cleaned in the following manner: Take the book to pieces, lay a few pages in an earthenware dish and press on them some boiling water, then take them out and lay them between clean blotting paper till dry. A drop of muriatic acid may be used, but care is required.