

PAINTING ON GLASS AND PORCELAIN.

One of the most important materials used for painting on glass and porcelain is manganese, a substance rarely seen in its metallic state; but its oxides are largely employed in the arts, especially for decorating porcelain and staining glass. At Sevres it is used in the composition of violets and blacks, and replaces advantageously the oxide of cobalt, and with the oxide of iron it is used for obtaining fine browns. This oxide is now more extensively used in pottery than before. The native oxide of manganese is sometimes combined with the oxide of lead as a glaze for the purpose of imparting a peculiar brown to many descriptions of porcelain. It is advisable to employ the oxide of manganese prepared as recently as possible from its solution in hydrochloric acid by precipitation with ammonia or potash dissolved in a large quantity of water. The precipitate, which is the dextroisid of manganese, is well washed, and being dried, carefully calcined. The salts of manganese appear not to be available to the artist in oil or water colors. In glass manufacture the peroxide of manganese forms a very important substance, it is largely used in the making of flint, crown, and plate glass, the principal use being to prevent the peroxidation of the iron which enters into the composition, and thus to preserve the whiteness of the glass. If the quantity employed slightly exceeds that which is necessary to prevent the peroxidation of the iron, or if the glass has been exposed to long-continued or too great a heat, it assumes a fine pink or rose-color. Indeed where glass contains an excess of manganese, although it may preserve its desired whiteness, it will, under the influence of sunshine, slowly change, as observed in the windows of old mansions; and it is not an uncommon occurrence that a ship proceeding to a tropical climate with white glass in her cabin windows, returns home with glass of a fine rose tint. Common cast flint glass is often distinguished by this peculiar color, produced by excess of oxide of manganese.

The colors used for painting glass, porcelain, and earthenware are all metallic preparations; they do not afford any shades for the palette of the artist, unless under some peculiar circumstance; still the enamel-painter uses all those colors as well as the potter. It should be remembered that all these metallic oxides, used either for glass or porcelain, or for the higher art of the enamel-painter, are mixed with silicious matter, with which, in the heat of the furnace, they combine and form a hard glass.

We will now give some formulas for the composition of colors with several metals:

Ruby Red.—6 cwt. of batch (the technical name for the mixture used for making flint-glass) with about 4 ounces of oxide of gold.

Amethyst, or Purple.—6 cwt. of batch with 20 pounds of manganese.

Common Orange.—6 cwt. of batch with 12 pounds of iron ore and 4 pounds of manganese.

Gold Topaz Color.—6 cwt. of batch with 3 pounds of oxide of uranium.

TAKING IMPRESSIONS OF LEAVES, &c.

The following item is now being copied in the newspapers: "Mr. Bertot, of the Paris Academy of Science, has just made known a simple method of taking impressions of plants, requiring only a large sheet of paper, some olive or other oil, black lead, ashes and resin (or colophony.) The paper is first lightly oiled on one side, then folded in four thicknesses so that the oil may filter through the pores, and the plant may not come into direct contact with the liquid. The plant is placed between the leaves of the second folding, and in this condition pressed (through other paper) all over with the hand, so as to make a small quantity of oil adhere to its surface. Then it is taken out and placed carefully on white paper; another sheet is placed over it (since two impressions can be taken), and the plant is pressed as before. On removing it an invisible image remains on the paper. By sprinkling over this a quantity of black lead or ashes, and distributing it in all directions, as in applying sand to writing, the image then appears in all its parts. With an assortment of colors, the natural colors of plants may be reproduced. To obtain fixity, resin is added to the black lead (previously) in equal quantity; the impression is fixed by exposure to a heat sufficient to melt the resin."

This is only a variation of an old device, which appears to us superior because much simpler. Rub a thin and even layer of thick oil-paint on the surface of a sheet of paper, so that when touching it with the finger it will leave a colored spot on the finger, then lay the leaf on this paper, lay another paper over it, and rub over the surface; then the color will adhere to all the

projections of the leaf, and the leaf can be used to print from by simply placing it on a sheet of clean white paper, placing another clean paper over it, and rubbing again, taking care not to allow it to slide sideways; the paper will then show a perfect impression of the leaf, and be its perfect image in case a proper shade of green is used. It is clear that any color can be employed, and in order to prevent the first mentioned paper from drying too rapidly, some castor-oil may be mixed with the paint, then the same paper may be used for charging the leaves with color for several days or weeks.

CONSIDERABLE interest has been manifested by the people of Canada as to who would get the furnishing of the Windsor Hotel in Montreal, the largest hotel in the Dominion. We copied from the *Toronto Mail* in our issue of Nov. 10th, that the whole of the contract was awarded to the Bowmanville Co. We now insert another item from the same paper which will speak for itself. The New York firm referred to, we believe, is Pottier & Stymus.

"It may be of no great interest to the general public to be informed who the parties are that have contracted for the furnishing of the Windsor Hotel, Montreal; but as so many misstatements have already been made on the subject, you will probably think it no more than right that these falsehoods should be exposed. I regret to say that the lion's share of the entire contract has been handed over to the Yankees, notwithstanding the often repeated declarations of the Syndicate that everything that could be made in the country, in the shape of furniture, would be of Canadian workmanship. The result is, however, that a good deal more than half is contracted for by a New York firm, only forty sets of bedroom furniture by the Bowmanville Furniture Company, and all the bedding and all the mantel mirrors, and about one hundred and thirty sets of bedroom furniture by R. Hay & Co., of Toronto. The latter firm, I believe, tendered for the entire furnishings, and it is stated that theirs was the lowest tender, but on account of the delay in leasing the hotel it was found that no one establishment was able to complete it in time to enable the lessee to open for business by the first of February 1878. Yours, &c.,
PROTECTION."

Another Canadian correspondent says:—

"The contracts for furnishing the Windsor Hotel have been awarded as follows: Barry & Campbell, Montreal, all the carpeting. Pottier & Stymus, New York, the two main floors, which includes the parlors, dining room, ladies' ordinary, and the suits of rooms, amounting to about thirty thousand dollars. The Upper Canada Furniture Company of Bowmanville, Ontario, all the rooms on the next floor amounting to eight thousand dollars. The three remaining floors to R. Hay & Co., of Toronto. The bedding contract has not been decided yet. The gasaliers and fittings to Mitchell, Vance & Co., and Archer, Pautet & Co., of New York. The house has been leased by Mr. James Worthington, contractor, who has engaged Mr. Henry Southgate as manager.

LEMONADE.—It is not in vain that nature has given us a taste for lemon juice, and that some persons have often a craving for it; this indicates a want of the system. Ships going on long voyages now take lemon juice on board as the best antidote against scurvy, that dread of the mariner, and the result of the privation of vegetable food or fruit, for which lemon juice is a general substitute.

We notice an item of the effectiveness of lemon juice to another form of impurity of blood, of which carbuncle is a symptom and an outlet of the same time. Dr. Gibbons, having been a sufferer from carbuncle, relates his own case, in which lemon juice (for which he felt a desire) seemed to have a most beneficial effect. Wine, whiskey, tonics, and all the usual remedies, gave him no relief, and did not help digestion. As soon as he took lemon juice digestion improved, as well as the local symptoms; and the effect was such that he intends to treat his patients in the same way. We have found in other diseases lemon juice a most grateful remedy, especially where (as Dr. Gibbons mentions in his own case) there is a desire for acid drinks and vegetables.

RECIPE FOR MAKING HARD SOAP.—7 lbs. common yellow soap, 4 lbs. sal soda, 1 oz. hartshorn, 2 oz. borax, $\frac{1}{4}$ lb. rosin, to be dissolved in 22 quarts water, and boiled about 20 minutes. It hardens sufficient on cooling to be cut in bars, but after a short time it becomes greasy, with particles of soda appearing in it. Use a larger proportion of sal soda and boil with the rosin and borax some time before adding the soap. It should be kept in a dry place for a time after cutting.