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USEFUL RECEIPTS.

New Green Dye.

From experiments lately made by a French chemist, it appears that the Chinese possess a green vegetable dye, unknown to the rest of the world, which is used for dyeing calicoes, &c. The first essays were made with a sample of the material, but through the kindness of Mr. Forbes, the American Consul at Canton, a small quantity of the dye itself was transmitted to Europe for examination. It is in thin scales, of a blue color resembling, somewhat, Java indigo, but of a finer texture, and, moreover differing from that dye in its composition and chemical properties. On making an infusion in water, with a very small piece of this substance, the water soon changed to a blue color that reflected a greenish hue; a strip of calico, with the mordants of iron and alum steeped in it, took a real dye; the parts covered with alum passing to a sea green, more or less deep according to the strength of the mordant; those covered with alum and the oxide of iron to a dark sea green approaching an olive green, and those with oxide of iron alone to a dark olive green. The parts untouched by the mordants remained white. It is concluded, from these experiments that the Chinese possess a coloring matter (lac) with the appearance of indigo, which changes to a green color with mordants of alum and iron, and that this coloring matter contains no indigo, nor anything bearing analogy to it. The Chamber of Commerce of Paris have directed inquiries to be made concerning its origin and preparation.

Liquid Glue.

A strong liquid glue, that will keep for years without changing, may be made by placing in a glazed vessel a quart of water and about 3 lbs. of hard glue. This is to be melted over a gentle fire in a glue-pot and stirred up occasionally. When all the glue is melted, drop in gradually a small quantity of nitric acid, when effervescence will take place. The vessel is then to be taken off the fire and allowed to cool. Liquid glue made in this manner has been kept for more than two years in an uncorked bottle without any change. It will be useful for many trades, where a strong glue is required, without the trouble of melting.

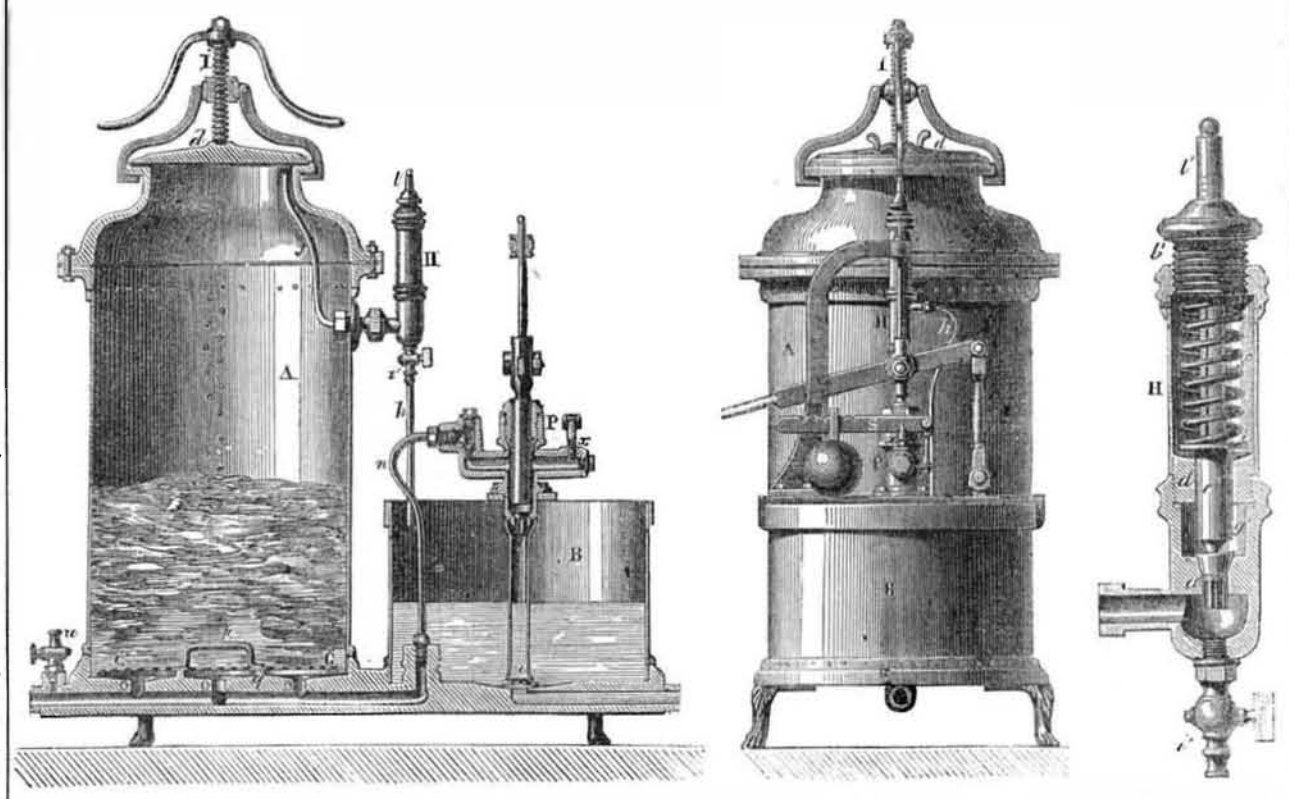
A German chemist has discovered that there is sugar in tears. What a lump of sweetness, then, Niobe must have been, who was "all tears!" Pity some married men could not contrive to distil this sweetness; their wives would supply them with the "very best moist all the year round."

A grindstone 4½ feet in diameter, in the foundry of J. L. Haven & Co., at Cincinnatti, burst on the 15th inst., doing more or less injury to three Germans at work in the room.

The St. Lawrence Mining Company has called for the last instalment on its stock, payable fifty cents on each share on the 30th inst., and fifty cents on the 31st of December.

IMPROVED METHOD OF DYEING AND BLEACHING.

Figure 1. Figure 2. Figure 3.



The annexed engravings illustrate a new process for bleaching and dyeing cotton and linen goods, invented by C. H. Metz, of Heidelberg, in Baden, Germany; it has recently been patented in France (being illustrated in the "Genie Industriel," from which we have translated this), and all the important countries in Europe. The nature of the process consists in expelling all the air from the cotton goods or yarn, in an air-tight vessel, then the dyeing and bleaching liquid is allowed to flow through all the pores of the cotton, by hydraulic pressure, by which means cold liquors are made to answer as well as hot liquors, which are now employed in dyeing, and bleaching will be accomplished in much quicker time.

Fig. 1 is a vertical section of the apparatus. Fig. 2 is a side elevation of the same; fig. 3 is a sectional view of the spring gauge for indicating the pressure. The same letters refer to like parts.

The apparatus, as may be seen from fig. 1, consists of two vessels joined together on a cast-iron plate. In one of them, A, is placed the cotton to be dyed, and is merely a cylinder of sheet tin, or, preferably, of copper, firmly closed at the upper part by a lid, *d*, which is kept tight by the hand screw, I. The plate on which this vessel is fixed has several apertures, O, for the liquid to pass through, and is covered with a thin sheet of copper, C, every where perforated. A space is left between these two, the latter being supported on a circular rim and projection, *q*, and can be also taken up when required by means of the handle, *p*. The other vessel, B, which is smaller, is entirely open at the top, and has fixed on to it a pump, P, of which the piston can be worked by hand or by any other movement. This pump is intended to draw up the liquid contained in the open vessel, B, and to send it by the pipe, *n*, into the closed vessel, A; it is constructed in a similar manner to the injection pumps of hydraulic presses, and has at its base a pipe, the end of which is perforated to allow no extraneous substance to pass, and a safety-valve, *x*, as well as two other valves. At the upper part of the closed vessel is the pipe, *f*, which forms one of the branches of a spring gauge, H; another branch, *h*, leading into the top of the vessel, B. This gauge serves to show the pressure (fig. 3), it contains a conical valve, *a'*, surmounted by a piston, *c'*, which passes through a socket, *d*, and has a circular base, *e'*, to receive the pressure of the spring, *f'*. A screw cap, *b'*, closes the top of the gauge, leaving in its centre the necessary aperture for the vertical rod, *l'*. This rod, which forms part of the piston, *c'* is graduated at the upper part to show, in atmospheres, the degree of pressure existing in the apparatus when at work. From this arrangement it is easy to be understood that if, after having filled the vessel, A, with cotton on the one hand, and having placed in the vessel, B, on the other, a suitable quantity of water the pump, P, be put in motion, it will force the liquid from the open vessel, B, into the closed vessel, A, through the perforations in the false bottom, C. Consequently the air contained in the fibres of the cotton being driven up by the liquid, rushes through the tube, *f*, into the gauge chamber. The gauge, therefore, serves at once as a regulator and indicator, because it only allows the liquid to go out when there is a sufficient pressure greater than that of the spring to open the valve (fig. 3). The liquid returns into the open vessel, B, by the pipe, *h*, the extremity of which does not extend quite to the surface of the water; it follows that the air which is expelled escapes upward, and the water can be again pumped into the closed vessel. There is a faucet, *i'* at the end of the indicator below the valve, to draw off any superfluous water, and another, *u*, at the end of the vessel, A, for inserting a manometer when required. There is also a faucet at the bottom of each vessel, for the purpose of emptying them.

In figure 1, a common hydrostatic pump is shown, with its weighted valve, S, and all the other parts. It is an invention for Bleach and Dye Works, more especially the latter, and is much better for the coloring of cotton in the wool, than in yarn or cloth. The valve, *a*, as it is acted upon by the compressed air, is lifted up until the air passes by the slots into the chamber, *g'*, which allows it to pass off through the bent tube, *h*, as shown in fig. 1.

This apparatus is presented for more than one object: it is capable of being used to impregnate skins with tannin liquor, or it can be employed for impregnating hams, &c., with salt brine; or it can be employed on a large scale for extracting air from timber, and impregnating it with the sulphate of copper to Payenize it.

Black Lead Mine.

A mine of plumbago or black lead has been worked for a few years past in New Hampshire, and supplies, to some extent, the New York market. The following is an account of the discovery:—

In April, 1848, Mr. Moses Carleton, of Lancaster, Mass., having heard that black lead had been discovered in Nelson, N. H., a town lying twelve miles east of Keene went there to see what could be found. He found the lead to be of good quality, and thinking there might be considerable of it, bought of the owner all the ores and minerals of every description on forty acres with the right and privilege to carry on the mining business to the best advantange that he could were he owner of the land, for which he paid $155. Mr. Carleton got out about five tons the first season. Finding the lead was well liked, and would sell readily at $100 per ton, he concluded to go into the manufacture more extensively. The second season he got out 40 tons, which he sold for about $4,000. The business has been increasing every year up to the present time. Last year there were 85 tons taken from the mine; this season, from April 1 to October, 100 tons, and if they continue to work until the 1st of December, which is the time the cold weather usually compels them to leave, there will be from 130 to 140 tons taken out—employing about eight men per day, with one yoke of oxen. Over 60 tons of the lead taken from the mine this season has already been sent to New York, and sold, on an average, for $100 per ton.

The freight per ton from Nelson to Keene, is $1,25, from Keene to New York $5. The freight paid upon the product of this mine this season will not be far from $800.

The Common Council of New York have passed a resolution to have a railroad in Broadway,—it has created a sensation.