

## MISCELLANEOUS.

**To Dye Hats Green or any other Color.**

A patent was granted to Robert Goulding of London, hat dyer, for his method of dyeing, staining, and coloring beaver hats green or any other color. The inventor directs the nap of the hat to be raised by means of a card, on the side intended to be dyed, and then boiled in alum argol. A thin paste should be made of flour or clay, which is spread over every part that is not to be dyed and then closed; or the hat may be previously pasted, and instead of being boiled, it should only be simmered in the same liquor. As soon as the paste is spread, plates of copper, or other metal, shaped like a common funnel, are fixed over the paste to prevent the dye from penetrating through. In this state the hat is immersed in the dye till the color is sufficiently fixed, when it is taken out, opened and cleansed from the paste; but if any coloring particles have penetrated through the felt, they may be removed by rubbing them with a small quantity of spirit of salt, aquafortis, &c. The compounds employed in dyeing, are fustic, turmeric, ebony, saffron, alum, argol, indigo, and vitriol, with urine or pearlash, at the option of the dyer; all which are used separately, or together, according to the color required.

[We cut the above from an exchange, and it shows how curiously fond some people are of wearing certain colors. The way of producing the color is certainly a fine subject of composition. The compounds employed for dyeing are fustic, turmeric, ebony, saffron, alum, argol, indigo, and vitriol, with urine or pearlash, all of which are used separately or together, according to the color required. Well, what color would they dye altogether, and what one separately? This is a fair question. Now, it would be exceedingly difficult to tell, for if used altogether, the one stuff would be neutralizing the effect of the other, and none of the stuffs separately would dye a color of any consequence. The fustic, turmeric, ebony, and saffron, are used for dyeing yellow, with a mordant of alum and a little argol (brown tartar); the sulphate of indigo will dye a blue on wool, but what kind of color would vitriol or alum dye, if used separately? No color at all. The sulphate of indigo and fustic dye a green color on woollen goods, but pearlash and urine strip off or discharge the blue, consequently the man who should attempt to dye a green hat with the above ingredients, collectively or separately, would have a pretty green time of it. So much for the chemistry of this compound green hat dye.

**Baths for the People.**

"A People's Bathing and Washing Association" has been opened in this city, in Mott street near Grand. The building is two stories high, and is 44 by 100 feet. Its object is to promote cleanliness, health, and comfort among the poorer classes.

The first floor is principally occupied by ranges of bathing apartments, and the second chiefly by a spacious wash-room. Seventy persons can be engaged in washing at one time, and this number can be extended to ninety. The bathing tubs are fifty-four in number, besides three vapor baths. There are two large swimming baths, in which twenty or thirty persons can be accommodated at one time. The water in the latter varies in depth from three feet at one end, to four at the opposite—the basin being formed of cemented brick walls, with an obliquely built bottom. The charges are as follows:—For plunge baths, two cents; for warm baths, five cents, and for a few first-class baths, ten cents. For washing, ironing, &c., there is every convenience. Ranges of stalls extend longitudinally through the building.—Each is numbered, and provided with a kind of trough formed into two partitions. Close by is a table for ironing, and overhead is an apparatus for drying clothes, arranged after the plan of a window sash, with weights and pulleys, so as, to rise or fall at pleasure. This sliding apparatus, when elevated, is brought in contact with confined heated air, where the clothes are heated with great rapidity. A current of fresh air, heated, is forced through all the drying closets by blowers. This is a

capital feature in it. By a contrivance, the flat-irons are brought from a common heating place, on a miniature railroad, and are at once placed at the disposal of the washer. The heat used in warming the flat-irons, is also used in drying the clothes. The building is effectually ventilated in every part. Five cents per hour is charged, and everything furnished by the Association, but soap. The length of time occupied by each person in washing, is noted at the door, and charges made accordingly.

There are to be two large heating boilers, when the whole is completed. But one is now in use. There is also a steam engine of seven horse power, used for pumping water into the boilers and for driving the blowers used for ventilation.

We heartily and hopefully rejoice at the establishment of this enterprise in our city. We hope it will be eminently successful. It should be the means of doing a great deal of real good. The arrangements are complete and ingenious, and do credit to its designers. The president of the Association is Robert Minturn.

**Recent Foreign Inventions.**

**TREATING OILS AND OTHER SUBSTANCES.**—E. A. Armand, of Paris, recently took out a patent for treating oils, &c., which is briefly described as follows:—

It is well known that when organic substances, such as wood, coal, fats, gum resins, horns, hides, and animal waste of all sorts, are heated in a closed vessel, decomposition ensues with the production of volatile bodies, which are sublimed and of a solid residuum, which remains in the vessel; the same also occurs when bituminous ore is used—the residuum in this case, however, being the sandy or earthy substance which served as the basis of the ore, while, in the former case, it is charcoal more or less pure. The other products of this distillation are of various kinds; namely gas and vapors, which are condensed into vinegar, water, essences, coal-tar, &c., and the proportions in which they are obtained will, of course, vary with the nature of the substances operated on.

Attention has been directed, in different trades, to the best mode of collecting increased proportions of certain of these products at the expense of the others; thus the vinegar manufacturers use wood, which they distil at a low temperature, while gas-makers use coal at a high temperature, in order to obtain as large a proportion of gas as possible without producing ammonia or coal-tar. Sometimes it is an object to produce oil and bituminous matters, and for this purpose bituminous ores, resinous substances, and the inferior descriptions of coal-tar, are used. The invention relates to the distilling of these substances, and is founded on the consideration that the elements of the gas and tar being the same, it is possible to obtain one from the other; that is, gas from tar, and from gas in contact with tar a liquid product rich in hydrogen, which, by dissolving in the tar, modifies its character. In this new system of working, the volatilized gases, instead of being condensed as usual, are made to pass through boiling tar, or hydrocarbonaceous matter, so as to obtain a reduced quantity of gas, and a new product by the absorption of part of the gas in the tar or tar-oil used.

The distillation of the bituminous matters is conducted as follows:—The matters are placed in cases, which are introduced into two or more open-ended retorts placed side by side in the same furnace. At both ends of the retorts are provided condensing apparatus, divided into three compartments, each containing pyrogenic oil of a specific gravity 0.90 to 0.96, which, during the working of the apparatus, is raised to different degrees of heat, and through which successively the gases, on escaping from the retorts, are caused to pass, so that portions are condensed therein, while the uncondensable gases are carried away to a gasometer for being burnt or otherwise used. The condensing apparatus being so contrived that it shall be of different degrees of heat in the different compartments, the products contained in them will be found to be of various densities—the lighter and most volatile being in that part of the condensing apparatus where the temperature is lowest, and the

heavier products being in that where the heat is more directly applied. When the nature of the working will not admit of the above apparatus being used—as, for instance, in manufacturing coke—the gases may be caused to traverse a vertical shaft full of pebbles, through or among which the hot oil is caused to trickle. The products obtained by this operation would be treated the same as those from the process just described.

For the purpose of purifying and decolorizing the light oils thus obtained, the patentee adds to them about 1 per cent. of nitrous sulphuric acid, which is poured gradually in, so as to prevent heating of the mixture, the oil being kept the while in a state of agitation. After a short time the oil clears itself, and the coloring matter is deposited; the oil is then decanted, and washed, first with lime-water, and afterwards with water alone, after which it is distilled in combination with a concentrated saline solution (composed of equal weights of an alkaline chloride and nitrate, such as sea salt and saltpetre), in order to absorb any sulphurous acid that may still remain in it, and to produce steam, by which the distilling operation is found to be facilitated. For the purpose of conducting this process, the patentee makes use of a modification of the calcining apparatus before mentioned. Instead of using nitrous sulphuric acid for rectifying the light oil, concentrated sulphuric acid, with peroxide of manganese, may be employed, or acid and permanganate, or chromate of potash, or any suitable oxidizing body. Instead also of the above-mentioned saline solution, a melted mixture of anhydrous lime and potash may be substituted, and the oil caused to come in contact with the same, which is well adapted for combining with any sulphurous acid and clearing the oils.

The heavy oils are treated by mixing them with about 1 per cent. of nitrous sulphuric acid, or of the above oxidizing mixtures, and allowing them to stand for a short time. The liquor is then decanted, and washed repeatedly with lime-water, after which the oil is mixed with about 3-7ths by weight of fixed oil, such as rape, oil, &c., with the addition of about 2 per cent. of the oxidizing mixture. The whole is then agitated until it becomes of a rich violet color. The patentee now again uses weak lime solution or steam, which precipitates the sulphurous acid, and he filters the liquid, when the oil will be found to have become of a yellow color, and perfectly transparent. The separation of the acid is a slow process, and to effect it perfectly it is necessary to wash repeatedly; and to allow the mixture to stand two or three days after each washing. Another process for treating these heavy oils is as follows:—The patentee mixes the fixed oils after the second addition of oxidizing matter, and he then decants the liquor, washes it with slightly alkalized water, and places it in a sand bath heated to about 390° Fah. for about six hours.

The heaviest oil may, without any preparation, be used as a grease for machinery and carriages, or it may be distilled, to any required concentration. A solid grease may be produced by mixing the heaviest oil with about 10 per cent. of resin or of a fixed oil or fat, and treating the mixture with a solution of lime and soda, at a heat of 212° Fah., and agitating continually until the mixture becomes mixed. When cold, the compound grease is of a compound color.—[London Mechanics' Mag.]

**Another Tubular Suspension Bridge.**

Brunnel, the eminent engineer, is now erecting a tubular bridge on the plan designed by Fairbairn and adopted by Stephenson, only he suspends his main tube with chains—a plan not adopted by Stephenson, who was dissuaded from so doing by Fairbairn. The new bridge is erected over the river Wye, in England, and when completed it will be 610 feet in length from bank to bank. It will be of four spans, three of a little over 100 feet each, and one of 309 feet. The three small ones rest upon iron piers, filled with concrete, supporting cast-iron girders. The large one, which is 9 feet diameter, is to be suspended on chains. This huge tube is built on iron cylinders which have been sunk by the exhausting process of Dr. Potts, which was illustrated and described on page 181, Vol. 5, Sci. Am.

What is the reason this process has been so little used in America? Can any of our civil engineers tell?

**The Great India Rubber Case Again.**

This great case, according to our description of its perambulating character, has travelled from Trenton to this city—that is, it is out of court into newspaper chancery. On Saturday, the 1st inst., Mr. Goodyear, or some one associated with him, published Daniel Webster's speech on the case, as delivered at the March Term of the U. S. Circuit Court, before Judge Grier, at Trenton, N. J. It is a great speech, there can be no doubt about that, but what was the object of its publication at this time? It was no doubt, for what is vulgarly termed "Buncombe." There are two sides to all questions, and this was presenting one side of it to the public, for an effect.

On last Wednesday Horace H. Day came out with a long article in the Tribune, and other papers, in which he states that the said speech, as printed, had many parts which Mr. Webster did not utter, "and probably never conceived." He calls it a *spurious* publication.

On Thursday Goodyear, or some of his associates, attacked Day for his remarks concerning the Webster speech, as printed. Here, then, we have the controversy about India Rubber, both in Court and out of it. India rubber is great stuff for drawing out,—but, it is our opinion, law is as tough, and a newspaper controversy as elastic. We also believe that the public have had quite enough of this case; and we cannot look with any degree of favor upon the bad taste and bad spirit which is displayed, in continually thrusting this question before the noses of the people, while so much is done, otherwise, to hinder it from being promptly decided at law. Such a case as this gives those who are opposed to patents something of a *handle* to handle. We must be excused for the tautology, as we are talking about an elastic substance which has got into a *law case*—a kind of case which is exceedingly tough, elastic, and durable; in fact we do not know of any *essence* so elastic as that of a well-managed law suit.

**Composition of Water—Paine's Light.**

We find in the "Year Book of Facts," page 192, an extract taken from the London Athenæum, which discusses the assertion made by Mr. Paine, that water was not a compound of hydrogen and oxygen, and it uses this language,—“if any scientific fact is established, it is the composition of water. Oxygen and hydrogen, in combination, give us that valuable fluid. The conditions of oxygen and its broad distinctions from hydrogen have been determined by the most able investigators the world ever produced—Lavoisier, Watt, Cavendish, Davy, and Faraday are not to be treated lightly, because a pseudo-scientific American press proclaims to the world its new views.” There are no men so fond of calling others, by the names which distinguish themselves as those who conduct a pseudo-scientific press: Not a single scientific paper in America proclaimed any such *new views*; the Athenæum took up the subject on hearsay.

**Steamboat Disasters on the Western Waters.**

The Charleston Mercury says:—“Since the first of January last, twenty-four steamboats have been lost on the Western rivers. Ten of the accidents were caused by sinking, nine by explosion, nine by burning, two by collapsing flues. Six of the boats have either been raised or did not prove a total loss. The whole number of lives lost is estimated at two hundred and fifty.”

When the Russians desire to keep fish perfectly fresh, to be carried a long journey in a hot climate, they dip them in hot beeswax, which acts like an air-tight covering. In this way they are taken to Malta, sweet even in summer, when surrounded in ice.

**A Poison Spring**

We saw, says the Louisville Courier, a package on the steamer Logan, yesterday, addressed to Prof. Silliman and Dr. Yandell, and which we learned contained a quantity of water taken from a spring near Logansport, Ky., which is said to be a deadly poison. The water is certain death to whoever drinks it, and it has been sent here to be analyzed.