

point of ebullition exceeds the 61st degree, and rises to the 68th degree C., the chloroform must be subjected to another series of rectifications.—*Bull. Gén. Thérap.*

De-Nicotinized Tobacco.—Dr. T. WILLIAMS (*Chicago Medical Journal*) recommends smokers to place in the bowls of their pipes a little powdered tannin, or a sponge saturated with a solution of tannin. The smoke will thus be deprived of its characteristic aroma and all the vaporized nicotine, which is the intoxicating principle. At first the smoke will be entirely free from all taste and smell of tobacco, but as the sponge becomes charged with the nicotine the odors will re-appear. By charging the sponge frequently, the smoker may indulge in his habit as immoderately as he pleases without injurious effects.—*Med. Record.*

Substitute for Dover's Powder.

R Morphia sulph. ʒj.
Camphor.
Crete prep.
Saccharum, aa ʒxx.
Misco (intimately).

Of this, ten grains contain very nearly one-sixth of a grain of morphia, and any person who tries that quantity in a teaspoonful of cold water will at once realize its eligibility over any other anodyne powder.—*Druggists' Circular.*

Black Walnut Polish.—Take asphaltum, pulverize it, place it in a jar or bottle, pour over it about twice its bulk of turpentine or benzole, put it in a warm place, and shake it from time to time. When dissolved, strain it, and apply to the wood with a cloth or stiff brush. If it should make too dark a satin, thin it with turpentine or benzole. This will dry in a few hours.

If it is desired to bring out the grain still more, apply a mixture of boiled oil and turpentine; this is better than oil alone. Put no oil with the asphaltum mixture, as it will dry very slowly. When the oil is dry, the wood can be polished with the following. Shellac varnish, of the usual consistency, two parts; boiled oil, one part. Shake it well before using. Appl. it to the wood by putting a few drops on a cloth and rubbing briskly on the wood for a few moments. This polish works well on old varnished furniture.—*Chem. News.*

Phosphorescent Mixtures.—The absorption of light by a certain class of bodies, and their subsequent phosphorescence in the dark, has been a good deal studied, but a perfectly satisfactory explanation of the phenomenon has not been attained. Very interesting experiments have been made by Schrotter, Forster and others, with artificial mixtures, and they have succeeded in imitating the colors of the rainbow, so that one can have a complete solar spectrum in the dark. It has been found that the light emitted is not actinic; it does not reduce the salts of silver, and it would be impossible to take a photograph with it. Schrotter recommends the employment of magnesium wire as a source of artificial light, and other experimenters burn sulphur, or pass electric sparks cautiously through a tube in which phosphorescent mixtures are enclosed. Any of these methods will answer instead of the sunlight. We furnish below a number of mixtures that have been found peculiarly fitted for

the exhibition of the phenomenon of phosphorescence. It is necessary to keep them sealed up in tubes, and to preserve them in a dark closet. By putting them for a few seconds in the sun, or by burning magnesium wire over them, and then viewing them in the dark, they will emit light sometimes for half an hour. A little practice will soon show what temperature is best adapted for their preparation.

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| No. 1. Pulverised oyster shells..... | 12 parts. |
| Flowers of sulphur..... | 4 " |
| Oxide of zinc..... | 0.5 " |
| (Ignite thirty minutes.) | |
| No. 2. Pure carbonate of lime..... | 12 parts. |
| Flowers of sulphur..... | 4 " |
| Realgar (sulph. arsenic).... | 0.5 " |
| (Ignite thirty minutes.) | |
| No. 3. Nitrate of strontia..... | 12 parts. |
| Flowers of sulphur..... | 4 " |
| Sulphide of antimony..... | 0.5 " |
| (Ignite thirty minutes.) | |
| No. 4. Sulphate of Baryta stirred into a paste with white of an egg, and ignited in an open coal fire for one hour. | |
| No. 5. Carbonate of strontia..... | 12 parts. |
| Sulphur..... | 4 " |
| Oxide of zinc..... | 1 " |
| (Ignite thirty minutes.) | |
| No. 6. Carbonate of strontia..... | 12 parts. |
| Sulphur..... | 4 " |
| Sulphide of antimony..... | 0.5 " |
| (Ignite thirty minutes.) | |
| No. 7. Carbonate of strontia..... | 12 parts. |
| Sulphur..... | 4 " |
| Sulphide of barium..... | 2.2 " |
| (Ignite thirty minutes.) | |
| No. 8. Pure carbonate of lime..... | 12 parts. |
| Sulphur..... | 12 " |
| (Ignite thirty minutes.) | |

—*Jour. of Applied Chemistry.*

Saturation Table.

<i>One drachm of potass. carbon. pur. requires:</i>	
Tartaric acid.....	grains 55
Citric acid.....	" 50
Vinegar.....	oz. 2
Lemon-juice.....	oz. 3
<i>One drachm of sodæ bicarbon. requires:</i>	
Tartaric acid.....	grains 54
Citric acid.....	" 48
Vinegar.....	dr. 15½
Lemon-juice.....	dr. 23
<i>One drachm cryst. carbon soda requires:</i>	
Tartaric acid.....	grains 30
Citric acid.....	" 27
Vinegar.....	dr. 9
Lemon-juice.....	dr. 13
<i>One dram of carbonate of ammonia:</i>	
Tartaric acid.....	grains 53
Citric acid.....	" 46
Vinegar.....	dr. 14½
Lemon-juice.....	dr. 21½
<i>One drachm of tartaric acid:</i>	
Potass. carbon. pur.....	grains 65
Sodæ bicarbon.....	" 66
Ammon. carbon.....	" 70
Sodæ carbon. cryst.....	" 119
<i>One drachm citric acid:</i>	
Potass. carbon. cryst.....	grains 71
Sodæ bicarbon.....	" 75
Ammon. carbon.....	" 78
Sodæ carbon. cryst.....	" 131
<i>3 oz. Lemon-juice, or 2 oz. Vinegar, require:</i>	
Potass. carbon.....	grains 60
Sodæ bicarbon.....	" 62
Ammon. carbon.....	" 67
Sodæ carbon. cryst.....	" 110
<i>3 oz. artificial lemon-juice must contain 60 grains citric acid.—Mohr's Practical Phar.</i>	

Mastic Cement.—*Pierre Artificielle*, or mastic cement, is the name given in trade to a substance now much used for architectural effect; it consists of sand, plaster, and litharge, in linseed oil. Its durability and hardness can be easily affected by alterations of the quantities of the ingredients, so that it can be made harder or softer, or more or less porous. The ground plaster, in fact, is not needed, but the small powder helps to fill up the crevices between the particles of sand, and thus prevents the substance from being porous and spongy.

To each 100 parts of the mixture should be added 7 parts of linseed-oil varnish; this has the property of imparting to the composition the consistency of wet sand, at the same time that it makes it very sticky. It then retains its form, and is in a much better condition to work up into fancy forms by pressing or stamping. When first prepared, this cement has no particular adhesive quality, but in from 24 to 48 hours it begins to harden, and in a few weeks it has hardened so as to attain all the firmness of the regular sand-stone. After the lapse of five or six months, it is hard enough to grind steel on. *Journal of Applied Chemistry.*

Proposed Method of Deodorizing Petroleum.

It has been suggested by an English inventor to remove the peculiar odor from petroleum in a manner somewhat similar to that by which palm-oil and other oils have heretofore in some cases been deodorized—by blowing air through them while they are kept heated in a suitable vessel to a temperature of from 170° to 230° Fahr. In place of using the air at such a pressure only as is necessary to cause it to flow through the oil, the present inventor employs it at a high pressure, more especially towards the end of the operation; so that when it enters the oil it expands greatly, thereby becoming intimately mixed with the oil and also cooling it rapidly below the temperature of the air, at which temperature he prefers to commence the treatment, and not to heat the oil as heretofore. The air when used under these conditions, rapidly removes the odor from the oil; and it may at the same time, from the cold it induces, be caused to chill a small proportion of it.—*Am. Artisan.*

Detection of Chlorine, Bromine, and Iodine by Spectrum Analysis.

—The difficulty of recognizing small amounts of chlorine, bromine, and iodine in a mixture of haloid salts is well known; and it is found impossible to detect mere traces of these bodies in such mixtures by any hitherto known method. The author, however, by using the haloid salts of copper for the purpose, has succeeded in recognizing the smallest amounts of the above substances by the use of the spectrum apparatus.

By this method, and without further trouble, ½ per cent. of chlorine, ½ per cent. of bromine, and 1 per cent. of iodine are easily recognized, and a practised eye may detect smaller quantities.—*Poggendorff's Annalen.*

Aluminium Bronze.—In consequence of the observation that aluminium bronze resists the wear of machinery, it has been proposed to employ it as a covering to protect stairs in public buildings, in place of brass. *Druggists' Circular.*