ABSTRACTS.

GENERAL AND INORGANIC CHEMISTRY.

Application of a Process of De Senarmont for the Reproduction of Celestine and Anglesite by the Wet Process. L. BOURGEOIS.

De Senarmont obtained cyrstallized barium sulphate by heating in a sealed tube at 250° for 60 hours, barium chloride with hydrochloric acid, obtaining barytine under the forms mpb^1; $mpb^1 a^2$; $b^1a^2 e^1$. The author has realized the crystallization of strontium sulphate and of lead sulphate under the same conditions, and the crystals have dimensions permitting their crystallographic study. (*Bul. Soc. Chim.*, **49**, *28.*) M.L.

ABSTRACTS.

ORGANIC CHEMISTRY.

Action of Crystallizable Formic Acid on Citrenol. J. LAFONT.

The author has already signalled the action of formic acid on camphene and the formation of camphene formiate.

The phenomena are different when citrene is substituted for camphene, which, although belonging to the terpilene series, has the composition $C_{20}H_{16}$.

The citrene used distilled at 175-178° and had a rotary power of $X]_d = +93°$. The author describes his experiments in detail. Unlike Camphene which combines easily with formic acid, citrene, a divalent hydrocarbon, shows no combination ; the principal action is an action of polymerisation yielding a hydrocarbon $C_{40}H_{32}$ and a small proportion of a rosin-like body. The author proposes to call the new hydrocarbon *diterpilene.* (*Bul. Soc. Chim.*, **49**, *18.*) M. L.

On Methyl iodoform. PIERRE DE BOISSIEU.

The author prepares this body by the action of aluminium iodide on methyl chloroform, CH_3CCl_3. Aluminium iodide is prepared by dissolving iodine in carbon disulphide, then adding the theoretical amount of aluminium in sheet form. In the solution the methyl chloroform is added, drop by drop, in a proportion calculated upon the formula:

$$2\,(CH_3—CCl_3)+Al_2I_6=Al_2Cl_6+2\,(CH_3CI_3).$$

The crystalline mass obtained is pressed in absorbing paper and recrystallized from alcohol. It contains 93.40 per cent. of iodine; melts at 95° and decomposes; is very soluble in carbon disulphide, benzol or ether; less soluble in petroleum ether; sparingly soluble in cold alcohol; soluble in hot alcohol. The author indicates a yield of only 25 to 30 per cent. without being able to assign the reason of such a low yield. (*Bul. Soc. Chim.*, **49**, *17.*) M. L.

Carbonate of Aniline. A. DITTE.

A current of CO_2 passed through aniline oil is not absorbed, nor do aniline salts undergo double decomposition with carbonates. The author has operated under a pressure (50 atm. at the temperature of +10° C.) and has observed the formation of crystals, believed to be formed by union of molecule to molecule of the two bodies present. These crystals dissociate when the pressure decreases. (*Moniteur des prod. Chim., p. 18.*) M. L.

ABSTRACTS.

ANALYTICAL CHEMISTRY.

Use of the Term "Normal" in Volumetric Analysis. A. H. ALLEN.

The author points out the confusion that arises in the preparation of solutions of such substances as potassium permanganate

or As_2O_3, when a "normal solution" is understood to mean a liquid containing the *molecular weight* in grams per litre. He advocates the use of the expression : "One litre shall contain the hydrogen equivalent of the active agent weighed in grams." (*Analyst*, **13**, *181.*) W. P. M.

Influence of Sulphur upon Eggertz's Carbon Color Test. T. W. HOGG.

The author finds that the sulphur does not oxidize to a sulphate as has been assumed, but remains free, suspended in the liquid, thereby communicating to it a certain turbidity or milkiness.

The character of the tint is changed greatly by this suspended sulphur. (*Chem. News*, **58**, *175.*) W. P. M.

Detection of Cotton-seed Oil in Lard.

Four full papers with discussions appear in the "Analyst" for September, 1888. W. P. M.

The Tintometer. J. W. LOVIBOND.

The instrument devised by the author consists of a tube divided by a central taper partition terminating in a knife edge at the eye-piece. At the other end of the instrument are two apertures of equal value, alterable by means of diaphragms. Slips of colored glass, of standard tint, are inserted through a series of transverse slots in the top, and the whole is arranged so that equal quantities of light pass on either side of the partition, illuminating the object under examination on the one hand and the glasses on the other.

Especially good results are claimed for the instrument in the examination of potable waters. (*J. Soc. Chem. Ind.*, **7**, *424.*) W. P. M.

Analysis of Grease. L. ARCHBUTT.

The method consists in dissolving the mixture of fat acid and neutral fat in ether and shaking with a weak alcoholic solution of caustic soda, which extracts all bodies of acid character, and leaves the mineral or other neutral oil dissolved in the ether. (*J. Soc. Chem. Ind.*, **7**, *494.*) W. P. M.

ABSTRACTS.

INDUSTRIAL CHEMISTRY.

Manufacture of Explosives as Carried on by Noble's Explosives Company.

This interesting paper is the outcome of the visit of the Society of Chemical Industry to the works of the above-mentioned company. Valuable information is given concerning the manufacture and handling of nitro-glycerine, dynamite, blasting-gelatin, gelatin-dynamite and fulminate of mercury. Experiments, made for the society, are described, showing the safety, power and special uses of the several explosives.

"Kieselguhr," the silicious remains of a variety of moss, is the inert base used in the preparation of dynamite at these works, the finished product being :

Nitroglycerine	75 parts by weight.
Kieselguhr	25 " " "

Blasting-gelatin is composed of 7 per cent. of nitro-cotton, mixed with (rather practically dissolved by) 93 per cent. of nitro-glycerine. It is considered the most powerful of all explosives capable of practical use.

Gelatin-dynamite consists of 80 per cent. thinly gelatinized nitro-glycerine, with nitrate of potash and wood cellulose added in certain proportions. It is from 30 to 40 per cent. more powerful than No. 1 dynamite. (*J. Soc. Chim.,.Ind.*, **7**, *488.*)

W. P. M.

Action of Sulphur Chloride on Oils. C. A. Fawsitt.

The heat reaction between the chloride and certain oils is more marked than when using sulphuric acid (Maumene's test). The author gives full tabulation of his results and introduces the item of rate of rise in temperature per minute, as well as total rise. With the use of 2 c.c. of the chloride the rise in temperaure varied

from .05° C per minute for palm nut oil, to 27.7° C for castor oil. For total rise, the variations were from 9° C for palm nut, to 112° for seal oil. (*J. Soc. Chim., Ind.*, **7**, *552.*) W. P. M.

Treatment and Distillation of Peppermint Plants. A. M. TODD.

The question is considered as to whether the 20,000 tons of peppermint plants, annually raised in the States of Michigan and New York (averaging a yield of one pound of essential oil per 350 pounds of plants), should be distilled in the green state or after thorough drying. Careful experiments show that there is no perceptible loss of the essential oil by the most thorough drying prior to distillation, and that the increased expense of distilling and shipping green plants is consequently not warranted. (*J. Soc. Chim., Ind.*, **7**, *550.*) W. P. M.

Abstracts of American Patents Relating to Chemistry.

(*From the Official Bulletin of the U. S. Patent Office.*)

April 17th, 1888.

381,132.—Production of blue-red azo dye stuff by the action of tetrazoditolyl salts on betanaphtylamine monosulpho acid. E. Hassenkamp.

381,354.—Pyroxyline varnish. W. D. Field.

Pyroxyline is dissolved in the acetic acid derivatives of the lighter alcohols of fusel oil.

381,369.—Filter press. A. Heberer.

381,471.—Process of producing blue-red coloring matter. E. Hassenkamp.

Salts of the tetrazo compounds of paradiamines, or their sulpho and carboxylic acid are combined with the new alkylnaphthylamine sulpho acids.

381,503.—Process of making soap. R. A. McCullough.

381,507.—Gunpowder. C. J. Olds.

Consists of carbonized peas combined with saltpeter, sulphur, and charcoal made from willow or other trees.

April 24th, 1888.

381,542.—Solution for voltaic batteries. C. E. Egan.

Contains ferric sulphate and a chromic compound or chromic acid.

381,685.—Apparatus for obtaining phosphorus trichloride. C. Fahlberg.

381,718.—Metallic alloy. H. Ostermann and A. Priss.

Consists of platinum 40–50 parts, copper 15–20 parts, nickel 25–35 parts, tungsten 1–2 parts, cobalt 1–2 parts and cadmium 1–2.5 parts.

381,719.—Metallic alloy. H. Ostermann and A. Priss.

Consists of gold, palladium, copper, silver, tungsten and cobalt.

381,734.—Alum tanned skin. A. Waster and H. C. Koegel.

Alum tanned skin is subsequently impregnated with chromium sesquioxide.

381,832.—Process of obtaining ammonia and bone black. F. Egner.

The gaseous products from the carbonization of the bone black are mixed with combustible gas from a gas producer.

May 1st, 1888.

381,996.—Apparatus for causticizing soda, etc. G. W. Hammond.

382,070.—Process of manufacturing orange mineral and red lead. A C. Bradley.

Finely comminuted metallic lead is dropped through a current of sufficiently heated air to oxidize it, and the resulting litharge is roasted.

382,105.—Method of coloring glassware. H. E. Mueller.

The process consists in painting glassware with a pigment, burning the pigment, and subjecting the glassware to the action of coal gas in a closed muffle.

382,133.—Process of manufacturing the oxides of the readily oxidizable metals for paints, etc. A. C. Bradley.

Vide 382,070.

382,159.—Process of bleaching. E. Hermite.

The material to be bleached is subjected to the action of an electrolized solution of magnesium chloride.

382,183.—Apparatus for producing metals by means of electrolysis. J. Omholt.

382,196.—Furnace for reducing aluminum. F. J. Seymour.

382,197.—Method of obtaining alumina from clay. F. J. Seymour.

The process consists in mixing the clay with a reducing agent and a flux, and with copper or other metal of greater specific and atomic weight than aluminium, and heating the mixture.

382,198.—Purification and alloying of copper. F. J. Seymour.

Copper is fused with a flux composed of phosphorus and fluorspar, and with the oxides of aluminium and zinc in presence of a reducing agent.

382,273.—Method of obtaining alumina from clay. F. J. Seymour.

May 8th, 1888.

382,368.—Process of refining dextrine. C. H. Matthiessen and J. Krieger.

An aqueous solution of commercial dextrine is allowed to ferment until the sugar originally present has been destroyed, after which it is neutralized, filtered and concentrated.

382,371.—Apparatus for the manufacture of gas. A. G. Meeze.

382,372.—Process of manufacturing gas from oil and steam. A. G. Meeze.

382,373.—Process of making coal gas. A. G. Meeze.

382,374.—Process of manufacturing gas. A. G. Meeze.

382,375.—Apparatus for the manufacture of gas. A. G. Meeze.

382,376.—Hydraulic cement. J. Murphy.

Improvement on patent 347,367.

Consists of limestone, furnace slag and clay.

382,447.—Process of coating iron and steel with rustless oxide. W. T. Wells.

The articles are subjected at a high temperature to the action of steam and carbon monoxide.

382,551.—Making sodium carbonates by sulphide of the alkaline earths. E. W. Parnell and J. Simpson.

The process consists in grinding calcium or barium sulphate, subjecting it to the action of carbonaceous matter, roasting the mixture in a non-oxidizing atmosphere, mixing the sulphide produced with ammonium chloride, and heating this mixture and conducting the ammonium sulphide evolved, together with carbon dioxide into a solution of sodium chloride.

W. R.