Specific Gravity of Vapor of Pyrosulfuryl Chloride. By J. Ogier. No. 5. (Jan. 30th, 1882.)—Victor Meyer's and Dumas' method have been employed.

The first method gives the following numbers: 3.88, 3.59, 3.99, 3.69, 3.36; mean 3.70 in anilin vapor. The results obtained in sulphur or mercury vapor do not differ very much; they are 3.72, 3.42, 3.30. By Dumas' method the numbers obtained are 3.87, 3.72, 3.69, 3.70; average 3.74 at ordinary pressure, and at temperatures between 160° and 200°C.

The pressure being reduced (200 to 300^{mm} of mercury) in order to obtain a decrease of temperature, the sp. gr. obtained at 170° were 3.69, 3.75, 3.80, 3.69, average 3.73. The vapor weighed was ascertained by analysis to be a pure product.

Researches on Pilocarpin. By M. Chastaing. No. 5. (Jan. 30th, 1882.)—Pure pilocarpin has been treated with melted potassa, a volatile product with an alkaline reaction was formed, giving a precipitate with a slightly acid solution of platinum chloride, forming methylamin chloroplatinate. There has been no formation of a volatile base having the characteristics of conicin. Under the influence of melted potassa, in excess, pilocarpin furnishes methylamin, carbonic acid, butyric acid, and traces of acetic acid.

FOREIGN PATENTS.

C. Arnold, New York: *Apparatus for generating ozone* (Germ. P. 15678, Jan. 20, 1881). Into a tray of glazed earthenware are placed vessels containing pieces of phosphorus and water. The tray is covered with a bell of unglazed, porous earthenware. Through this bell the air passes in and the ozone passes out whilst the oxidation products of the phosphorus remain inside and dissolve in the water contained in the glazed tray.

H. Precht, New Stassfurt: *Method of preparing magnesia, potassium sulphide and potassium sulphate from potassium-magnesium sulphate.* (Germ. P. 15,747, March 8, 1881). The manufacture of potassium sulphate from the above mentioned double sulphate by heating it to redness by carbon, according to the equation:—
$2\ (K_2SO_4\ MgSO_4) + C = 2\ K_2SO_4 + 2\ MgO + 2\ SO_2 + CO_2$;
as indicated by Schwarz (Dingler's polyt. J. vol. 219, p. 352), is

modified so as to first produce potassium sulphide in the mixture. This sulphide effects the decomposition of the double sulphate with greater energy, rapidity and completeness.

I. Egestorff, Hanover: *Improvements in salt evaporating pans and method of filtering brine.* (Germ. P. 14,782, Feb. 1, 1881). Mechanical arrangement for protecting the steam coils from the depositing salt, and filtration of the hot brine through flannel before running it into the pan.

A. R. Pechiney, Salindres: *Method of preparing chlorates.* (Germ. P. 15,493, March 10, 1881). By the usual method of manufacturing potassium chlorate, decomposition of the product resulting from the action of chlorine upon milk of lime, by means of potassium chloride, a part of the potassium chloride remains dissolved in the calcium chloride mother liquor, after the crystallization of the potassium salt. In order to reduce this loss to a minimum the inventor removes the greater part of the calcium chloride from the mixture of calcium chlorate and chloride before adding the potassium chloride. This he effects by evaporating the liquid to 48°Be. and cooling, whereupon calcium chloride crystallizes, and can be removed, or by adding 3 molecules of lime for 1 molecule of calcium chloride whereby basic chlorides are formed, which can be separated from the liquid, or finally both operations may be employed consecutively.

C. Luckow, Deutz: *Electrolysis of zinc solutions for the purpose of extracting zinc from its ores.* (Germ. P. 14,256, April 20, 1880). Concentrated solutions of zinc salts are electrolized. The zinc is separated in grains, and the acids liberated are made to act upon crude or wasted zinc ores connected with the anode of the battery. Polarization of the electrodes is neutralized by chemical or mechanical means.

A. Gurlt, Bonn: *Method of working up calamine residues and zinc waste by treatment with gaseous or liquid hydrochloric acid in combination with chlorides of the alkalies or alkaline earths.* (Germ. P. 15,012, Dec. 5, 1880, 1st additional patent to No. 8,116). The modification of the original patent consists in the employment of gaseous or liquid hydrochloric acid during the distillation of the zinc chloride, whereby the extraction of the zinc is facilitated.

P. Manhes, Lyons: *Manufacture of refined copper from copper mattes in Bessemer converters by the use of reducing agents.*

(Germ. P. 15,562, Aug. 20, 1880). Sulphurous copper ores are melted down in a pit furnace. The matte obtained is treated with air in a converter in the same manner as pig iron in the Bessemer process. The operation is ended when evolution of sulphurous acid has nearly ceased. The product is crude copper. To refine it, charcoal powder is blown in with the air. Modifications of the process are described for the treatment of mattes rich in iron or too deficient in sulphur to produce the required degree of fluidity.

MAX TSCHIRNER, San Francisco: *Improvements in the manufacture of explosive compounds.* (Germ. P. 15,508, Feb. 6, 1880). Picric acid, 1 part; tar, 1 part; and potassium chlorate, 5 parts.

I. M. LEWIN, Paris: *Use of cotton and dextrine for the preparation of a gelatinous nitro-glycerine.* (Germ. P. 15,073, Jan. 18, 1881). Purified and finely divided cotton is mixed with 5 parts of dextrine and heated under pressure in a closed vessel. The jelly thereby formed is dissolved in nitro-glycerine to the extent of 7 per cent., and forms a mass from which the nitro-glycerine will not drain. An explosive compound is formed by mixing this gelatinous nitro-glycerine with nitre and sawdust.

CHEMISCHE FABRIK AUF ACTIEN, Berlin: *Preparation of coloring matters from sulphosalicylic acid.* (Germ. P. 15,117, Dec. 10, 1880, and Germ. P. 15,889, Mar. 18, 1881). Sulphosalicylic acid is nitrated by means of nitric acid of sp. gr. 1.35. Stronger nitric acid eliminates the sulpho group with formation of various nitro-compounds. Nitro-sulphosalicylic acid and its soluble salts dye silk and wool yellow. The coloring power is augmented by the introduction of one atom of bromine. Excess of bromine also eliminates the sulpho group, forming dibromnitrosalicylic acid.

Sulphosalicylic acid also reacts with phenols to form coloring matters, yielding, for instance, with resorcin a brownish-red dye.

With diazo, diazoamido, and amidoazo compounds, sulphosalicylic acid produces red dyes.

In Patent No. 15,889, the method of preparation of the bromine substitution compounds of introsulphosalicylic and nitrosalicylic acids is claimed.