

sulphonic acid to 360°, nothing was obtained, but at a higher temperature, some phenol and diphenol, but no hydroquinone or resorcine. From benzoedisulphonic acid (1 : 3) potash produces, at a temperature of 270°, resorcine. Soda yields, in all cases, smaller results.

Reports on American and Foreign Patents Relating to Chemistry.

American Patents.

Condensed from the Official Gazette of the U. S. Patent Office, by ARNO BEHR.

June 1, 1880.

228,181.—*Treatment of petroleum lubricating oil and lard oil.* HENRY V. P. DRAPER.

An addition of chloroform to the oil, will keep the oil liquid at a comparatively low temperature.

228,221.—*Paper for bank notes, checks, etc.* JAMES SANGSTER.

Ruling lines across the surface of an ordinary paper with alkali, and then removing or neutralizing the alkali.

228,300.—*Manufacture of artificial indigo-blue.* ADOLF BAEYER.

If a solution of a mixture of orthonitrophenylpropionic acid, an alkali and glucose, is printed on yarn or cloth, indigo-blue is developed in and upon the fibre by simple application of heat.

228,328.—*Process of making artificial parchment out of toughened paper.* LOUIS H. G. EHRHARDT.

With the paper pulp is mixed silicate of soda, alum and chloride of zinc.

228,362.—*Dry-copying process.* VINCENZ KWAYSSER and RUDOLF HUSAK.

The inventors claim the method of producing on an absorbent surface, possessing the properties of remaining moist and elastic, a transfer impression, reverse from the original writing, and then printing copies from it by pressing dry sheets of paper thereupon.

228,387.—*Process and apparatus for the manufacture of fertilizers.* WM. PLUMER.

Refers to the drying of night soil, and to its transformation into a fertilizer.

228,389.—*Solution for electro-deposition of nickel.* JAMES POWELL.

Claims a mixture of a nickel salt, pyrophosphate of soda or potash, or a mixture of pyrophosphate of soda, phosphate of nickel, bisulphite of soda and citrate of nickel and ammonia.

228,392.—*Process for making illuminating gas.* THOMAS I. F. REGAN.

Claims the process of subjecting naphtha to direct contact with caustic lime within a closed vessel or retort, and drawing off the gas, generated, by an exhauster.

June 8, 1880.

228,463.—*Production of articles by solidifying leather pulp.* JOHN W. HYATT and JOHN H. STEVENS.

After all fat or oil is removed from leather, the latter is dried and ground. The powder is pressed in suitable moulds, heated to 240–250° F. at a pressure of about 5,000 lbs to the square inch.

228,487.—*Refrigerating process and apparatus.* CYPRIEN TESSIÉ DU MOTAY and AUGUSTE T. ROSSI.

228,488.—*Production of cold for manufacturing ice.* CYPRIEN M. TESSIÉ DU MOTAY and AUGUSTE T. ROSSI.

According to claim 5, the inventors propose to use a binary liquid, composed of an absorbent liquid, such as oxalic ether, sulphate of methyl, or other like liquids, having a boiling point above that of water, and sulphurous dioxide.

They also claim the method of safely transporting ethers, by causing them to absorb a quantity of sulphurous dioxide, which will render them unflammable.

228,519.—*Process and compound for embalming and preserving animal substances.* PETER C. DOREMUS.

The compound to be used for the embalming of dead bodies, consists of a solution of sulphurous acid in water, to which is added saltpetre.

228,615.—*Metallic alloy.* CHARLES I. A. and GEORGE A. DICK.

This alloy is made by adding tin and phosphuret of tin to highly heated wrought iron or iron sponge.

June 15, 1880.

228,804.—*Compound for preserving fruit, etc.* GEO. A. CUTLER.

A mixture of 4 parts of sulphur, 1 of bichlorate of soda, and 1 of saltpetre, is burned in a closed chamber, in which the fruit is spread on trays.

228,881.—*Preparation of lime-juice.* JOHN and THOMAS D. DOUGLAS.

In order to preserve lime-juice, it is mixed with sugar, water, glycerine, and a sufficient quantity of sulphuric acid.

228,889.—*Process for preparing extract of coffee.* DAVID J. GUE and JOSEPH C. GRANT.

The ground coffee is first extracted with cold, and afterwards with boiling water, and the two extracts are mixed.

228,900.—*Aluminium alloy plating.* JAMES S. HOWARD.

The inventor claims the "solution" of cryolite, chloride of magnesium and chloride of manganese in water, for electroplating.

228,901.—*Fire-brick.* ALFRED E. HUNT.

A composition of 100 parts of pulverized silex and 4 parts of lime.

228,935.—*Deflagrating compound.* JOHN A. ROBINSON and ROBERT H. DIMOCK.

A compound of amorphous phosphorus with plumbic plumbate and chlorate of potassium.

228,955.—*Treatment of sewage.* BRUNO TERNE.

Sewerage water is treated with a solution of superphosphate of lime, and a solution of some material containing tannic or gallic acid.

228,960.—*Roofing and paving material.* CYRUS M. WARREN.

Uses the residuum obtained by the distillation of a mixture of coal-tar, and ordinary petroleum residuum.

228,970.—*Amalgamating metals.* PAUL G. L. G. DESIGNOLLE.

The pulverized ore is thoroughly mixed with a solution of corrosive sublimate, to which is added common salt or hydrochloric acid, and this mixture is subjected to the action of grinding or titrating surfaces of iron, so as to bring each particle of the mixture into intimate contact with iron.

June 22, 1880.

229,038.—*Manufacture of vulcanized india-rubber compounds.* HENRY GERNER.

A new compound called "heveenoid," consisting principally of india-rubber, camphor, sulphur and glycerine.

229,042.—*Compound for preserving food.* GILBERT F. HOLLAND.

2 ounces of alum, 2 ounces of nitrate of potash and 1 pound of gum, are dissolved in 1 gallon of water. The articles of food are dipped into this solution, and the coating dried.

229,045.—*Impervious wrapping-paper.* ROBERT W. JOHNSON.

Claim: The combination of a compound of caoutchouc, and either paraffine or Japan wax, with, and between, two sheets of unsized paper.

229,090.—*Concentrating alkaline solutions.* HUGH BURGESS.

Causing the liquid to trickle down circuitous passages in the presence of heated air, or products of combustion, which are induced to take the same downward course.

229,130.—*Concentrated extract of tobacco.* RICHARD T. HILL.

The tobacco is extracted with water, and a little acid, at a temperature not exceeding 130° F., and the extract afterwards evaporated to the consistency of a syrup.

229,159.—*Compound for fuel and fire-kindlers.* JACOB C. MCCARTY.

A compound for saturating charcoal, coke or coal, to be used as fuel, consisting of a solution of chloride of sodium, sulphate of iron and nitrate of potash.

229,186.—*Filter-paper supporter.* JAMES O. ROBERTSON.

According to the claim it consists of a conical basket, a series of arms extending from its larger end or ring, and a series of projections extending from its lesser ring.

June 29, 1880.

229,248.—*Process of treating pine leaves and other vegetable fibres.* GEORGE T. GREGERSEN.

The claims do not give a sufficiently clear idea of the process.

229,249.—*Manufacture of potassium sulphate from kainite.* CECIL N. HAKE.

If kainite, which is a double salt of potassium chloride and sulphate of magnesium, is dissolved in a hot solution of sulphate of magnesium, schoenite, which is a double salt of potassium and magnesium sulphate, separates on cooling, while chloride of magnesium remains in the mother liquid. The schoenite formed is separated and treated with caustic lime; the product is calcined, and on lixiviation yields a solution of sulphate of potassium.

229,254.—*Mode of converting straw into bleached paper.* JULIUS KAUFFMANN.

First cutting the straw, then boiling it in caustic soda, then separating it from the lye, forming it into cakes, and finally destroying the envelope of, and bleaching, the straw fibre by exposure to chlorine gas.

229,264.—*Recovering soda from spent liquors, after treating vegetable fibre.* CASSIUS C. MARKLE and JOSEPH JORDAN.

The spent soda-lye is evaporated, and caustic lime mixed with it before incineration.

229,274.—*Nickel-depositing solution.* JAS. POWELL.

Benzoic acid is added to the solution of a suitable nickel salt.

229,307.—*Preparing wood for making paper-pulp.* JAMES DAVY, JR.

Removes the bark by a steaming process previous to the reduction of the wood to pulp.

229,308.—*Casting metals.* JAMES DUFF.

The process consists in simultaneously melting and deoxidizing iron or steel, and then casting these metals in an atmosphere free of oxygen.

229,335.—*Carbon for electric lights.* WILLIAM E. SAWYER and ALBON MAN.

Claim: Carbon consolidated and purified by electrically treating it in combination with a carbonaceous substance, for the production of electric burners.

229,338.—*Process and apparatus for producing hydrogen gas.* CYPRIEN MARIE TESSIÉ DU MOTAY.

The process consists, according to the claims, in first highly heating vapor of naphtha and steam; second, bringing the naphtha vapor and steam into contact with a highly heated body of lime; third, passing the gaseous products through a cooler body of lime, whereby carbonic acid is absorbed and separated from the hydrogen; fourth, revivifying the lime when charged with carbonic acid, by burning in its presence a sufficient supply of gas containing hydrogen, and fifth, continuing the operation with the revived lime.

229,339.—*Process and apparatus for manufacturing hydrogen gas; and:*

229,340.—*Process for the production of hydrogen gas*—by the same inventor—show essentially the same process applied to water-gas and ordinary coal-gas respectively, instead of naphtha.

229,374.—*Apparatus for purifying air.* FRIEDRICK A. BRUNS.

229,473.—*Paint composition.* GENNARO ROSSI.

Consists of refined petroleum, boiled linseed oil, bees wax, sugar of lead, garlic-juice, milk of sulphur, cayenne-pepper and tallow.

Foreign Patents

Condensed from R. BIEDERMANN'S Report to the German Chemical Society,

by OTTO H. KRAUSE.

GEO. BORSCHÉ, Leopoldshall: *Apparatus for the continuous preparation of bromine.* (Germ. P., No. 9553, July 18, 1879.)—The apparatus is a vessel made of sand-stone or other resisting material, containing coke or fragments of earthen ware, &c., through which the solution containing bromine trickles, and meets a current of steam and chlorine gas, which enters near the bottom of the vessel. See also this JOURNAL, I, 502.

L. THIERCELIN, Paris: *Method of obtaining iodine, etc., from marine plants.* (Engl. P., No. 2539, June 25, 1879.)—The plants are finely cut up and mashed, and brought to fermentation with the aid of yeast. The alcohol is distilled off, the residue evaporated and calcined at a low temperature. From this iodine, bromine and potassium salts are obtained in known manner.

A. NOBEL, Paris: *Refining cast iron.* (Engl. P., No. 2314, June 11, 1879.) Highly heated hydrogen gas is forced through the molten metal to remove sulphur and phosphorus. Subsequently, superheated steam is passed through, the oxygen of which is supposed to act on the carbon of the cast iron only.

C. DE MONTEBLANC and L. GAULARD, Paris: *Removal of metalloids from iron ores and cast iron.* (Engl. P., No. 2383, June 16, 1879.)—These inventors also inject superheated steam into the molten metal. The hydrogen of the decomposed steam is supposed to remove sulphur and phosphorus.

ALFRED NOBEL, Paris: *Explosive compound.* (Engl. P., No. 2399, June 17, 1879.)—The inventor proposes to overcome the difficulty of exploding finely