

upon the nature of the plants, those which are collected from the bottom of the sea yielding most. The pulp containing the lime is said to be useful as a fertilizer.

J. H. C. BEHNEKE, B., Billwärdar : *Alumina and alkaline carbonates from bauxite.* (Germ. P., No. 7256, April 1, 1879.)

PAUL PICCARD, Lausanne : *Concentration of brine.* (Eng. P., No. 3109, August 6, 1878.)

JUL. WILH. KLINGHAMMER, Braunschweig : *Apparatus to saturate solutions with sulphurous acid.* (Germ. P., No. 6389, Dec. 20, 1878.)—Uses simply a tower, into which the sulphurous acid, which is prepared by the combustion of sulphur, is introduced at the lower end.

JOS. TSCHERNIAC and H. GUENZBURG, Paris : *Improvements in the apparatus used for the synthetic preparation of sulpho and ferro-cyanides.* This is an addition to the Germ. P., No. 3199. (Germ. P., No. 7079, April 16, 1879.)—Ammonium sulpho-cyanide is produced in an enameled kettle, which is heated by a steam coil laying in the bottom. This kettle is connected with a similar one above, which is kept cool by a coil through which cold water is passed. During the operation a constant boiling of bisulphide of carbon takes place, which is cooled above and thence conducted back into the first. For the reduction of the iron sesquioxide to iron, a furnace consisting of several parts, one above the other, is applied, in which the mixture of oxide and carbon is gradually passed towards the hottest part of the flame. The reduced iron is received in a chamber from which the air is excluded.

E. A. PARNELL, Swansea : *Produces zinc oxide by heating the sulphate with carbon, or substances containing carbon.* (Engl. P., No. 3237, Aug. 16, 1878.)

CL. ED. MANGIN-LESUR, Paris : (Germ. P., No. 7498, April 16, 1879.)—*Looking-glasses* are prepared by first silvering the glass; upon this, a solution of mercurium potassium cyanide is then brought, which is decomposed by zinc dust dusted over it.

ELIZABETH JANE CORBETT, San Francisco : (Engl. P., No. 2213, June 3, 1878.)—*Conducts sewer gas, for the purpose of disinfection,* through lamp-posts into the interior of street lanterns.

G. KUEHNEMANN, Dresden : *Method for the separation of the constituents of grain.* (Germ. P., No. 7056, Feb. 22, 1879.)

G. J. VEDOVA, Smyrna : (Engl. P.)—*Preparation of a powder or extract containing tannic acid,* from certain excrescences of oak trees in the Levant.

E. SCHRADER and O. DUMCKE, Königsberg : *Method and apparatus to melt amber and gum copal under exclusion of air.* (Germ. P., No. 6322, Jan. 19, 1879.)—From the slightly inclined apparatus which, at its lower end has a stop-cock, the air is expelled by indifferent gases or steam. The darkening of copal is thus prevented.

C. SCHEIBLER : *Improvements on the apparatus used for the experimental extraction of sugar-beets.* (Germ. P., No. 7493, April 29, 1879.)

D. ROBERTSON GARDNER, Glasgow : *Preservation of wood.* (Engl. P., No. 3261, Aug. 19, 1878.)—The wood is first treated with neutral, alkaline and acid vapors, and freed from the sap. It is finally impregnated with mercuric nitrate or other substances.

GUSTAV BERNHEIM, Brussels: *Fire extinguisher*. (Engl. P., No. 4089, Oct. 29, 1878.)—Consisting in 1000 pts, of 700 calcium chloride solution, 44° B., 20 conc. solution of borax, 29 potassium bicarbonate, 90 conc. solution of sodium tungstate, 90 ammonium chloride solution, 160 sodium chloride solution, 29 magnesium sulphate solution and 79 water. Nothing is said of what becomes of the various precipitates. The material is kept in barrels, and used in case of fire, in the place of water.

SAM. ARTHUR PETO, London: *Graphite crucibles*. (Engl. P., No. 3992, Oct. 9, 1878.)—Black lead crucibles absorb water to a considerable extent, and before use they must be carefully heated. To prevent the absorption of moisture, and the cracking by careless heating, the inventor covers the crucibles with a mass consisting of 12 clay, 2 Cornish stone, 4 burnt clay and  $\frac{1}{2}$  manganese. The crucible thus covered, is then heated in a stove. Some salt thrown into the stove improves the glaze, which is said to correspond well in its coefficient of expansion, with the mass of the crucible, thus preventing that it cracks or loosens during cooling.

PHIL. EMBURY LOCKWOOD, London: *Medicine*. (Engl. P., No. 4192, Oct. 21, 1878.)—Mixture of cod liver oil and malt extract.

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## American Patents.

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

October 7, 1879.

220,304.—*Explosive compounds*. JOHN PATTISON.

An explosive compound, having for its base chlorate of potassium, is mixed with a certain proportion of coarsely ground mustard, or flax-seed. This addition is intended to prevent premature and spontaneous explosion.

220,321.—*Artificial fuel*. EBENEZER BURGESS WARREN.

A mixture of coal tar, pitch and petroleum tar, or wax-tailings with coal-dust, as obtained at the mines.

220,334.—*Varnishes*. REVERE M. BREINIG.

The varnish is made of metalline gum, caustic soda, or potash, resinous gum, linseed oil, chloride of sodium, turpentine, and a drier consisting of a metallic salt.

220,397.—*Manufacture of chloroform and allied products*. JOHN W. MALLET.

Brief: This improvement consists in forming from the vapors and gases arising from petroleum springs, or from the light products of distillation of petroleum, chlorine substitution products, by bringing the chlorine into close contact with such hydro-carbons through the intervention of a porous substance, or of metallic chlorides, and by separating such products from each other by fractional distillation.