

Foreign Patents.

Condensed from R. BIEDERMANN'S Report to the German Chemical Society,
by OTTO H. KRAUSE.

FRED. PAUR, Montbéliard: *Desulphurization of pyrites residues.* (Germ. P., No. 8730, May 22, 1879.)—The residues are boiled with a solution of potassium permanganate. Potassium sulphate and manganic peroxide are formed. The former is removed by washing; the latter remains with the ferric oxide, and may be used for the same purposes as manganiferous iron ore.

ORAZIO LUGO, Flushing, New York: *Purification of gas.* (Engl. P., No. 1410, April 9, 1879.)—Illuminating gas mixed, according to the amount of impurities present, with 0.8 to 2.9 per cent. by volume, of air, is purified by contact with animal charcoal impregnated with tar. The air added is supposed to decompose the hydrogen sulphide, and the nitrogen is supposed to form ammonia under the influence of the animal charcoal.

J. SPOONER HOWARD, F. G. BATES and F. P. PENDLETON, Philadelphia: *Manufacture of aluminium and aluminium alloys.* (Engl. P., No. 1909, April 17, 1879.)—The inventors claim to prepare aluminium by simply heating a mixture of 1 lb. precipitated alumina, 1 oz. of coal and 3 oz. sodium chloride, in a crucible to 700° F., and aluminium alloys by merely stirring alumina into a molten metal, copper, for instance. (R. Biedermann thinks it is a pity that these inventors did not demonstrate long ago to Messrs. Woehler and Ste. Clair Deville, what a simple thing it is to prepare aluminium.)

(See also this JOURNAL, I, 408.)

JEAN MARIE HARMET, Lyons: *Dephosphorization of iron in two operations.* (Germ. P., No. 8949, March 20, 1879.)—Silicium and carbon are removed from the fused iron contained in a Bessemer converter, having an acid lining. The iron separated from the slag is then run into a second converter, having a basic lining, and there dephosphorized. The composition of the linings is not stated.

FRED. THOM. READE, London: *Dephosphorization of iron.* (Engl. P., No. 1877, April 22, 1879.)—Pulverized limestone is blown together with the air through the metal contained in a Bessemer converter.

A. G. GREBEL, Paris: *Process of enameling cast iron.* (Engl. P., No. 1183, March 22, 1879.)—The finely pulverized enamel is applied, with suitable precautions, to the inner surface of the mould. The heat of the molten metal fuses the enamel into the surface of the iron.

DUGALD CLERK and C. A. FAWSITT, Glasgow: *Coating iron and steel with platinum.* (Engl. P., No. 1182, March 25, 1879.)—Platinum foil is applied to malleable iron or steel at a welding heat.

E. W. PARNELL, Liverpool: *Manufacture of zinc paint.* (Engl. P., No. 549, February 12, 1879.)—Precipitates an alkaline solution of oxide of zinc with an alkaline sulphide, and proposes to remove sulphides from crude soda lyes by adding alkaline solution of zinc, and so obtain sulphide of zinc as a by-product.

JOHN CAWLEY, Deptford: *Manufacture of zinc sulphide.* (Engl. P., No. 1047, March 17, 1879.)

TH. GRIFFITHS, Birkenhead: *Manufacture of zinc sulphide*. (Engl. P., No. 1131.)—Both patents are essentially the same as Germ. P., No. 8138, of March 29, 1879, to Griffiths and Cawley. See this JOURNAL, I, 588.

G. McROBERTS, Glasgow: *Explosive compound*. (Engl. P., No. 1090, March 19, 1879.)—The inventor adds cotton, infusorial earth, sawdust, pulverized charcoal, or other absorbent non-explosive matters, to Nobel's mixture of nitroglycerine and gun cotton, or methyl-nitrate and gun cotton.

JOHN WATSON, Gateshead: *Manufacture of Portland cement*. (Engl. P., No. 1510, April 17, 1879.)—Mixes 2 parts blast furnace slag, 5 parts lime and 2 parts clay, and calcines and calcines the mixture.

A. C. A. HOLTZAPFEL, Newcastle: *Coating for ships' bottoms, etc.* (Eng. P., No. 1028, March 15, 1879.)—Mixture of tar, wood spirit, rosin, shellac, turpentine, oxides of iron and mercury, sulphide of antimony and arsenic.

J. LEVINSTEIN, Manchester: *Preparation of orange and scarlet coloring matters*. (Engl. P., No. 623, February 15, 1879.)—The orange coloring matters obtained by the action of α or β -naphtholsulphonic acid upon diazobenzole or its homologues, are separable by digestion with ammoniacal wood spirit or alcohol into a scarlet coloring matter which is insoluble, and an orange dye which can be obtained by evaporating the solution.

P. POULIN, Chaumes, France: *Separation of woolen and cotton fibres*. (Engl. P., No. 1512, April 18, 1879.)—The cotton is removed by boiling the stuff in a solution of calcium chloride at 20° Bé, or in a solution of sodium chloride acidified with hydrochloric acid. (Neither method is new.—R. B.)

C. STIERLIN, Paris: *Artificial leather*. (Germ. P., No. 9140, June 13, 1879.)—Carded cotton is put into a bath composed of glue 25 parts, water 75 parts, clay 20 parts, and tannin 5 to 10 parts, wrung out and tanned during 12 to 24 hours in a decoction of oak bark containing 5 per cent. of glycerine.

HUGO ALISCH, Berlin: *Syphon for acids*. (Germ. P., No. 9133, October 14, 1879.)—A receiving vessel, from which a glass tube passes into the carboy, is placed over the latter. By means of a three-way cock, the vessel can be connected with an air-pump or opened to the air. The acid is aspirated into the upper vessel, from which it may be drawn off as wanted, a ball valve preventing its return to the carboy.

W. MUELLER, Antwerp, and E. GEISENBERGER, Brussels: *Improvements in the manufacture of ammonia*. (Engl. P., No. 1481, April 16, 1879.)—Barium or potassium nitrate or nitrite is heated in a retort, and the gaseous products of the decomposition passed together with steam into a second retort, containing coal heated to redness, and in which the liberated hydrogen and nitrogen combine, forming ammonia.

The base remaining in the first retort is reconverted into nitrate or nitrite, by bringing it into contact with oxygen and nitrogen under the influence of electricity. According to another patent of the same inventors (Engl. P., No. 1592, April 22, 1879), ammonia may be prepared from hydrogen and atmospheric nitrogen, under the influence of electricity, in the following manner: Steam is passed through retorts containing coal heated to redness, and the hydrogen gas pumped into a reservoir to be cooled and purified. The gases from the furnace which heats the retorts are drawn, by means of a pump, into another recep-

tacle in which lime absorbs the carbonic acid. The gases from both receivers are then passed into a mixing vessel; a glass tube near the lower end contains the wires between which the electric sparks are made to pass. The ammonia formed is absorbed in the ordinary manner.

H. UJHELY, Vienna: *Purification of ozokerite*. (Engl. P., No. 333, January 17, 1879.)—Instead of treating ozokerite with steam, sulphuric acid and bone black, to prepare paraffine and ceresine from it (see Grabowsky, *Wagn. Jahresber.*, 1877, 1039), the inventor dissolves it in the light hydrocarbons from petroleum or tar, or in bisulphide of carbon. The solution is filtered through bone black, and the purified ozokerite obtained by evaporation in vacuo, distillation, or exposure to a low temperature.

J. J. SACHS, Barrow, Furness: *Extraction of greasy matters from textile fabrics*. (Engl. P., No. 1673, April 29, 1879.)—The goods are treated with solution of sodium silicate. Neither the process nor the apparatus employed contain novel features.

J. RADIG, Schweidnitz: *Odorless fertilizing powder* (Germ. P., No. 8466, June 17, 1879.)—Calcined sodium sulphate, dried kieserite and ferrous sulphate are added to human excreta.

A. NOBEL, Paris: *Explosive compound*. (Engl. P., No. 226, January 20, 1879.)—Explosive bodies, of rapid and tardy explosibility, are mingled in such proportions as to produce a mixture having the desired degree of explosibility.

HULENZ and DREYFUSS, Paris: *Process of waterproofing textile fabrics, leather, &c.* (Engl. P., No. 438, Feb. 3, 1879.)—By employing a mixture composed of 1000 parts white wax, 60 varnish, 40 Burgundy pitch, 80 peanut oil, 50 ferrous sulphate, and 20 essence of thyme.

MATTHIS and WEBER, Duisburg. *Apparatus for continuously concentrating liquids by steam*. (Germ. P., No. 8464, May 30, 1879.)—Cannot be properly described without the drawing. The liquid to be evaporated is made to pass in an opposite direction to steam, in a multi-tubular apparatus.

A. RUEMLER, Hecklingen: *Process and apparatus for recovering magnesia from the magnesian scum obtained in defecating beet juice*. (Germ. P., No. 9144, September 14, 1879.)—The scum is calcined in inclined, closed cylinders, open below. The ammoniacal vapors given off are condensed in a vessel filled with moist lumps of unburnt gypsum or kieserite.

THOMAS ATKINS, Clapham: *Manufacture and purification of illuminating gas*. (Germ. P., No. 9280, April 25, 1879.)—Two retorts are placed, the one within the other. "Compound gas" is evolved from a mixture of bones, shale and coal, contained in the inner retort, which is perforated, and mixes with the coal gas generated in the outer retort, increasing its illuminating power. The residue remaining in the retort, is mixed in layers with lime, and employed in the purification of the gas.