

- 233,886.—*An article for cattle food.* WM. HARROLD SMITH.
Compressed bran.
- 233,887.—*Fuel.* WM. HARROLD SMITH.
Compressed saw-dust.
- 233,900.—*Producing aluminium bronze.* JAMES WEBSTER.
Copper electroplated with aluminium is melted altogether with an alloy of copper, nickel, aluminium and tin.
- 233,916.—*Manufacture of aluminous cake.* GEORGE F. BIHN and ROBERT HEERLEIN.
Sulphate of alumina containing iron is treated in a semi-fluid state with alkaline sulphites.
- 233,948.—*Manufacture of artificial marble or stone.* ALVIN M. RICHARDSON.
- 233,960.—*Artificial stone and marble.* WILLIAM H. YOUNG.
- 234,025.—*Apparatus for burning sulphur to produce sulphuric acid.* HENRY GLOVER.

Foreign Patents.

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

by OTTO H. KRAUSE.

KARL MOELLER, Kupferhammer, near Brackwede: *Improvements in apparatus for filtering vapors and gases.* (Germ. P., No. 10451, Jan. 22, 1880, being additional Patent to Germ. P., No. 8806. See this JOURNAL, 2, 191.)—The additions relate to arrangements for keeping the filters moist, for scraping off dust and soot, and for regulating the temperature.

T. H. COBLEY, Dunstable: *Method of working up manure straw.* (Engl. P., No. 3312, August 16, 1879.)—The manure is digested with calcium sulphide and boiled with water, to obtain ammonia. After separating the liquid, the straw is treated with alkali, and the cellulose which results is used in the manufacture of paper.

PAUL STUBE, Paris: *Manufacture of illuminating and heating gas.* (Engl. P., No. 3302, August 16, 1879.)—Water gas, prepared in a retort from heated coal and steam in the usual way, is carburetted in a second retort by means of oil, fat, rosin, tar, etc., in the usual way, and freed from carbonic acid by milk of lime in the usual way. The carbonic acid, however, is removed by means of an ammoniacal solution of copper, which can be regenerated by heating. Besides this, the patent contains Mallet's process for preparing oxygen from air, and Tessié du Motay's method of obtaining it also from air, by means of alternate treatment of heated sodium permanganate with air and superheated steam.

EMIL DREYSSIG, Ravensburg: *Tar varnish.* (Germ. P., No. 10685, Nov. 13, 1879.)—Tar heated to 70° C., with equal weight of hydraulic lime, Roman or Portland cement. This varnish is not acted upon by acids, and is adapted for coating wood exposed to water, etc.

JACOB ENGELS, Kalk: *Explosive made from pyroxyline, nitroglycerine, pyropaper, xyloidine, nitromannite and silicate of soda, which explodes at a low tempera-*

ture, with or without a percussion cap. (Germ. P., No. 10232, Nov. 28, 1879).—The above substances are mixed in various proportions, and put up in the form of cartridges, which are covered with a collodion capsule.

GUSTAV MOYSAN, Champigneuelles: *Method of refining blast furnace slag* (Germ. P., No. 10149, May 30, 1879).—Blast furnace slag which, owing to its chemical composition, is unfit for making slag bricks or stones, is run into a movable refining furnace, where it receives such additions as will render it suitable for that purpose.

PAUL MAGNIER and L. F. DOERFLINGER, Paris: *Improvements in the method of dissolving silk and applying it to properly prepared fabrics*. (Germ. P., No. 10416, Oct. 15, 1879, being additional Patent to Germ. P., No. 7275, Feb. 13, 1879).—Oxalic acid or potassa, soda or ammonia, are used as solvents.

P. SCHUETZENBERGER and L. NAUDIN, Paris: *Bleaching of vegetable fibres*. (Engl. P., No. 3290, Aug. 14, 1879).—Sodium hydrosulphide is added to the alkaline bath to which the fibres are subjected, previous to treatment with chloride of lime.

JUL. ATHENSTAEDT, Bad Essen: *Method of preparing aceto-lactate and aceto-citrate of alumina*. (Germ. P., No. 10488, Jan. 6, 1880, being additional Patent to Germ. P., No. 9790, Nov. 24, 1879. See this JOURNAL, 2, 232).—Solution of lactic or citric acid, or of lactate or citrate of alumina, is added to solution of acetate of alumina, and the mixture evaporated.

EDWARD PERGER, Vienna: *Method of obtaining the volatile products emitted from roasting coffee*. (Germ. P., No. 10519, Dec. 25, 1879).—These products, which may amount to 25 per cent. of the weight of the coffee, are condensed and used in flavoring coffee surrogates.

ALEX. WILKINSON, London: *Method of isolating telegraph wires*. (Engl. P., No. 3472, Aug. 28, 1879).—Composition of flour, linseed oil, guttapercha and white lead.

ALEX. MANBRÉ, London: *Treatment of starch residues*. (Engl. P., No. 3481, Aug. 29, 1879).—The starch retained in the waters is converted into glucose by adding an acid and heating.

JOHN TAYLOR, Southport: *Manufacture of ink*. (Engl. P., No. 3499, Sept. 1, 1879).—Aniline black.

J. TOWNSEND, Stassfurt: *Improvements in the manufacture of alkaline carbonates, chlorine and hydrochloric acid*. (Germ. P., No. 10641, Oct. 18, 1879).—Magnesium sulphate and potassium or sodium chloride are heated together with silica or clay, and in the presence of air, in a muffle furnace, to 500–700° C. Chlorine is evolved, and potassium or sodium sulphate and magnesia remain. Kainite is subjected to a similar treatment in presence of air or steam.

G. BORSCHÉ and J. BRÜNJES, Leopoldshall: *Method of obtaining sodium magnesium chloride and potassium magnesium sulphate from kainite*. (Germ. P., No. 10701, Dec. 20, 1879).—Kainite is treated at temperatures below 80° C., with a solution of the same mineral in water, saturated at the ordinary temperature. Upon cooling, potassium magnesium sulphate crystallizes, whilst sodium and magnesium chloride remain in solution. If water alone be used in extracting, the sulphate is largely contaminated with sodium chloride.