

July 27, 1880.

230,393.—*Purifying extracts of bark.* EARNSHAW BRADLEY.

The extract is evaporated to a density of 10° Bé, and then artificially cooled in an apparatus constructed for the purpose. The liquid is conducted through a series of vats, overflowing one into another, where the substances which have been separated on cooling, are allowed to settle.

230,415.—*Phosphated nutritive powder.* SAMUEL W. HALEY.

Milk is precipitated with monobasic phosphoric acid, and the washed and dried curd is mixed with phosphate and bicarbonate of soda, salt and flour.

230,501.—*Apparatus for the recovery of waste sulphuric acid.* AMÉDÉE G. SEBILLOT.

Relates to the treatment of certain ores with sulphuric acid. For particulars, reference must be had to the specification.

230,518.—*Refining cocoa-nut oil.* ALEXANDER P. ASHBOURNE.

Boiling the oil with sugar, eggs and alum.

Foreign Patents.

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

by OTTO H. KRAUSE.

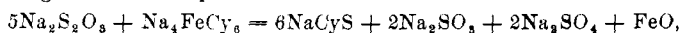
ALFRED NOBEL, Paris: *Apparatus for concentrating sulphuric acid and similar liquids.* (Germ. P., No. 10149, January 15, 1880.)—A tower constructed cast iron pipes, within which a number of porcelain basins are supported, one above another, upon suitable projections. Each basin has a hole through which a glass rod passes and rests upon the one below, thus permitting the acid which enters at the top of the tower, to flow from one basin to another without spattering. When all the basins are filled, the tower is heated by means of the hot air flues which surround it. The acid vapors evolved, as well as the concentrated acid, are drawn off below. The apparatus is based upon the property of cast iron of resisting the action of sulphuric acid vapor, and it is claimed that even acids containing nitrogen compounds may be concentrated in it.

H. UNGER, Leipzig: *Improvements in apparatus for the ammoniacal manufacture of soda.* (Germ. P., No. 10392, December 21, 1879.)—The sodium bicarbonate to be calcined is passed through a system of retorts, by means of endless screw conveyers. Suitable arrangements are provided to exclude air. The opening for withdrawing the gases and vapors is so placed that the latter cannot come in contact with and be condensed by the cold bicarbonate entering the apparatus.

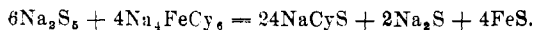
T. WASTCHOUK and N. GLOUCHOFF, Moscow: *Preparation of caustic alkalis by electrolysis.* (Germ. P., No. 10039, December 2, 1879.)—The novel feature of this method, already previously attempted, of preparing sodium hydrate from

sodium chloride by electrolysis, consists in an arrangement for removing the gases which tend to polarize the electrodes.

E. CAREY, H. GASKELL and F. HURTER, Widnes: *Purification of alkaline lyes*. (Engl. P., No. 2939, July 18, 1879.)—The inventors remove ferrocyanogen compounds from lyes by exposing them to the air, or by adding sulphur, sulphides or hyposulphites, and heating to 150°. For this purpose the solution is made to circulate through a heated coil of pipes. By employing sodium thiosulphate the following reaction takes place:



or, by employing sodium pentasulphide:



W. P. THOMPSON, Trammere, Chester: *Manufacture of aluminium, sodium, and allied metals*. (Engl. P., No. 2101, March 27, 1879.)—In this process molten iron alone, or together with hydrogen or carbon, is employed as a reducing agent, and it is proposed to carry out the operation in an apparatus similar to a Bessemer converter. This is to contain two divisions. After the iron has been melted in one of these, it is run into the other by turning the converter. Hydrogen, or carburetted hydrogen, is admitted to this division through one tube, whilst aluminium chloride, or fluoride, in a fused or volatilized state, enter by a second. Hydrogen and ferric chloride are evolved, and aluminium and carbon are said to remain in the converter. The mixture of iron, aluminium and carbon, is passed into the other division, where a current of air consumes the carbon only, leaving an alloy of iron and aluminium.

In the preparation of sodium, the hydrogen is dispensed with. Iron mixed with excess of carbon is heated in the converter with sodium hydrate, and the sodium formed, distilled off. When pure aluminium is required, sodium is first prepared in the manner just described, and aluminium chloride, or fluoride, admitted to the division of the converter containing it, air being excluded.

EMIL ANDRE, Coblenz: *Method of dephosphorizing pig iron*. (Germ. P., No. 9635, March 14, 1879.)—The pig iron direct from the blast furnace is dephosphorized in open pits. These are lined with overburned dolomite, to which 2 per cent. of a mixture of lime and sulphuric acid has been added, as a binding material, and are charged with large pieces of oxides of iron, rich in manganese. Pulverized manganic oxide, preferably mixed with lime, or fluor spar, is added to the molten iron as it runs into the pit, in such proportion, that tribasic salts may be formed with the phosphorus, silicium and sulphur present.

ACTIEN-VEREIN FUER BERGBAU, ETC., Gutehoffnungshuette, Oberhausen: *Method of lining Bessemer converters with bauxite*. (Germ. P., No. 9701, March 17, 1879.)—The bauxite is calcined, ground and mixed with binding materials, such as clay, lime or burned dolomite, and the mixture used as it is, or in the form of bricks.

W. GOEBEL, Hanover: *Gas generator for retort furnaces*. (Germ. P., No. 9367, February 11, 1879.)—The generator is composed of two connected parts: a pit furnace, for producing carbonic acid, and a cylinder, filled with coke, in which the carbonic acid is reduced to carbonic oxide.

AUGUST KLOENNE, Dortmund: *Method of preventing the hydraulic mains of gas furnaces from becoming clogged with thickened tar*. (Germ. P., No. 9965, De-

ember 16, 1879.)—The inventor passes, continuously or periodically, small quantities of cold or hot crude phenols into the main to dissolve the thick mass collecting there.

WILLIAM BELL, New York : *Manufacture of paraffine from cannel coal, peat, etc.* (Engl. P., No. 3011, July 24, 1879.)—The substances mentioned are extracted with naphtha or ether.

C. THOMAS, W. J. FULLER and S. A. KING, Bristol, England. *Improvements in the process of recovering glycerine from soap waters.* (Germ. P., No. 9979; September 30, 1879.)—The soap waters are evaporated until the greater part of the salts separates. The alkalies and alkaline carbonates which still remain in solution are combined with an excess of stearic or oleic acid, forming soap, which separates with the fatty acids upon the surface of the liquid. The fatty acids are syphoned off, the remaining liquid filtered and clarified, and the glycerine obtained by concentrating and distilling. (See also this JOURNAL, 2, 105.)

VICTOR VON OFENHEIM, Vienna : *Improved method of bleaching ozokerite, ceresine, paraffine, petroleum, stearine, and other hydrocarbons and fatty matters, with the aid of the hydroxides of aluminium, iron, manganese and magnesium, and the silicates of aluminium and magnesium.* (Germ. P., No. 9981, October 24, 1879, being an addition to Germ. P., No. 9291; see this JOURNAL, 2, 232.)—Besides the substances mentioned in the original patent, the silicates of aluminium and magnesium may be employed for bleaching ozokerite, etc.

ERNEST FARRINGTON, Paris : *Treatment of asphaltum for paving.* (Germ. P., No. 2560, June 26, 1879; see this JOURNAL, 2, 300.)

JOHN C. MARTIN, Richmond : *Improvement in mills for grinding white lead.* (Germ. P., No. 10209, September 21, 1879.)—The grinding apparatus is covered to prevent the poisonous dust from spreading. An automatic scraper removes the ground material from time to time.

GEO. J. LEWIS, Philadelphia : *Improvements in the manufacture of white lead.* (Germ. P., No. 10061, October 26, 1879.)—The vapors obtained by subliming the ore (galena) are oxidized by a current of hot air. The heat resulting from the burning of the sulphur, permits a saving of fuel.

J. S. GRAWITZ, Paris : *Preparation of aniline black.* (Engl. P., No. 2958, July 21, 1879.)—The inventor cites the following process as an example : To a warmed mixture of 800 parts, by weight, of water, 150 starch, 50 gum, and 70 potassium chloride, are added upon cooling 100 parts aniline, 100 parts hydrochloric acid, sp. gr., 1.16, and 100 parts water ; finally, freshly precipitated hydroxide of iron from 200 parts chloride of iron, of sp. gr., 1.175.

THEILIG and CLAUS, Crimmitschau, Saxony : *Improvements in the oxidizing process in dyeing with aniline black.* (Germ. P., No. 9904, November 8, 1879.)—The fabric, impregnated with aniline salt, potassium chlorate, vanadium chloride, etc., is exposed to a current of hot air, to oxidize the aniline. After the material has assumed a certain degree of dryness, vapor of water is mixed with the current of air. To neutralize the liberated acids, ammonia gas may be passed over the fabric, together with the hot air, etc.

GESELLSCHAFT FUER HOLZSTOFFBEREITUNG, Grellingen near Basel. *Method of bleaching wood pulp.* (Germ. P., No. 9923, November 7, 1879.)—The moist pulp is treated with sulphurous acid gas.

J. C. ZIMMERMANN and O. HOLTZWICH, Dresden : *Apparatus for preparing japan and oil varnish*. (Germ. P., No. 9444, July 15, 1879.)—The apparatus for melting the resins is heated by hot air, or superheated steam, to avoid burning the contents. A second apparatus serves for the continuous preparation of varnish from linseed oil. In this, the oil flows in a thin layer over surfaces of lead, whilst a current of hot air from the melting apparatus passes over the oil.

CHEMISCHE FABRIK AUF ACTIEN, successor to E. SCHERING, Berlin : *Method of preparing tannic acid in a form similar to crystalline needles*. (Germ. P., No. 10076, December 10, 1879.)—The solution of tannin is evaporated until it forms a mass, which breaks upon cooling. The warmed mass is allowed to flow through small holes in the bottom of a vessel placed about 15 feet high. The threads so formed are wound upon a rotating drum, and subsequently broken up.

SIMON ULLMO, Lyons : *Rapid tanning process*. (Germ. P., No. 9919, September 12, 1879.)—The hides are treated with a tanning solution, which contains per 100 lbs. of wet hide, 30 lbs. dividivi, 20 lbs. bark of oak-root (*garouille*), 30 lbs. alum, 15 lbs. soured barley meal, and 1 lb. sulphate of copper.

A. CORDS and A. DEININGER, Berlin : *Method of removing and preventing boiler incrustation*. (Germ. P., No. 9185, June 20, 1879.)—The inventors add sulphate of iron to the water; an easily removable mud is said to be formed, and even old incrustations dissolved. (In feed water containing air, a basic salt will be formed, and the sulphuric acid liberated will attack the iron of the boiler, in case a sufficient amount of base is not present in the water to neutralize the acid. R. B.)

KARL DRECHSLER, Dresden : *Pulverulent lubricant for shafting, etc.* (Germ. P., No. 10375, December 17, 1879.)—Mixture of graphite, and white or yolk of egg, applied in the dry state.

KARL F. HARTMANN, Wuestewaltersdorf : *Method of impregnating fabrics with cellulose*. (Germ. P., No. 10080, January 16, 1880.)—Finely divided vegetable fiber, mixed up with potato flour and water, is applied to the goods with the aid of rollers.

W. KETTE, Jassen : *Precipitation of protein bodies from waste waters of potato starch works*. (Germ. P., No. 10033, October 29, 1879.)—The waters from the grated potatoes are precipitated with an acid solution, obtained by boiling waste products containing starch, with sulphuric acid.

E. C. CARRATTE and A. F. D. CLAPARÈDE, Geneva : *Method and apparatus for converting the coagulum of milk into a dry powder*. (Germ. P., No. 9485, October 10, 1878.)—The milk is coagulated by means of cream of tartar or dilute sulphuric acid, and spread upon a sieve, to allow the watery matters to flow away. To every kgrm of the coagulated paste, 2 grms of potassium carbonate, or sodium bi-carbonate, and 100 grms sugar, are added, and the whole mixed, dried and powdered.

G. KUEHNEMANN, Dresden : *Improvements in bread making*. (Germ. P., No. 10019, January 4, 1880, being second additional patent to Germ. P., No. 4611, of March 15, 1878; see this JOURNAL, x, 304, 456.)—According to the original patents, the following substances are obtained from grain and bran :

1. Amylo-dextrine, soluble albumen, extractive matters, and salts (grain juice).

2. Pulverulent precipitates composed of starch and albuminoids.

To a 10-15 per cent. solution of the substances mentioned under 1, the powder of starch and albuminoids is added, together with as much flour as is necessary to form dough; finally a little salt, and leaven or yeast.

E. H. HUCH, Dresden: *Method of preserving the blood of cattle.* (Germ. P., No. 10081, October 21, 1879.)—The fresh blood is mixed with pulverized unslaked lime. A gelatinous mass separates easily from the precipitated lime. It is said to be valuable for feeding.

CHARLES ROSS, Teufelsbrueck, near Altona: *Apparatus for filtering liquids containing gases.* (Germ. P., No. 9379, September 16, 1879.)—The whole filtering apparatus is placed under, and maintained at, a constant pressure by the gas contained in the liquid.

C. H. TIFFEN, Hove: *Remedy for tooth-ache and neuralgia.* (Engl. P., No. 2923, July 18, 1879.)