

## Abstract of American Patents Relating to Chemistry.

*From the Official Gazette of the U. S. Patent Office.*

*(Addenda to April 8th, 1884, p. 203.)*

**296,433.**—Manufacture of paper.—W. Rupp.

Substitutes infusorial earth for a portion of the paper stock in the manufacture of absorbent paper.

*June 17, 1884.*

**300,352.**—Tanning process.—S. S. Eddy.

First subjects the pickled hides to an acidulating composition, washes drains and completes the operation of tanning with an alkaline tanning composition.

**300,383.**—Apparatus for distilling wood.—J. A. Matthieu.

**300,384.**—Distillation of wood.—J. A. Matthieu.

**300,385.**—Retort for carbonizing wood.—J. A. Matthieu.

The above three patents cannot be described without the specifications and drawings.

**300,436.**—Process of removing tannic acid from coffee.—H. H. Beach.

Treats coffee for the removal of tannic acid and other deleterious substances therefrom by heating the green coffee to 212° Fahr., and removes the matter extracted from the berry.

**300,464.**—Compound material for the manufacture of sheets, boards, blocks, artificial wood, etc.—L. Haas.

Vegetable fiber, leather or shoddy waste, crude asbestos, litharge and thinned asphaltum blended with sulphur, pitch and whiting.

**300,466.**—Process and apparatus for manufacturing gas.—J. Hanlow.

Decomposes steam by means of heated fuel, charges with hydrocarbon and fixes the mixture of gas and vapors in a previously heated fixing chamber.

**300,497.**—Apparatus for treating leather stock with naphtha to extract oils.—F. F. Newall.

**300,560.**—Compound for the manufacture of artificial stone.—H. Bening.

Sand, cement, oxalic acid, chalk, muriatic acid, iron filings and water.

**300,599.**—Process of and apparatus for crystallizing tin.—G. R. Habicht.

Consists in heating and cooling the plates, subjecting them to a solution of caustic soda to remove the oxide coating and finally developing the crystallization by subjecting the plates to the action of an acid.

**300,700.**—Method of manufacturing starch.—H. Duryea.

Applies a solution of alkali to the condensed starch water by which a stratification of the resultant liquor into a solution of starch, and one of glutinous matters is effected, and removes them separately.

**300,729.**—Fire and waterproof compound.—O. F. Parsons.

Coal tar, air-slaked lime, Spanish brown, sulphur, litharge, fine salt and American ochre.

**300,747.**—Process of treating iron.—B. Woodruff.

Consists in repeated heating at increasing temperatures, alternated with rolling or pressing into it sand, common salt, black oxide of manganese, and before or after fashioning the metal as required, heating it to about a welding point and hardening or tempering it.

*June 24th, 1884.*

**300,752.**—Apparatus for generating gas or vapor from liquid hydrocarbons.—A. J. Ambler.

**300,778.**—Process of and apparatus for treating fibrous plants.—J. A. Hitter.

Subjects them to the action of steam which has passed through a solution of sulphate of iron and soft soap.

**300,802 and 300,803.**—Process of and apparatus for manufacturing illuminating gas.—S. C. Salisbury.

**300,811.**—Apparatus for the continuous distillation of oil.—H. C. Smith.

Fractional distillation of the oil, which descends through a series of pipes arranged in an inclined plane in a heated chamber.

**300,826.**—Process of producing steel from wrought iron with plumbago.—W. A. O. Wuth.

Charges the furnace with pieces of wrought iron having a low percentage of phosphorus in layers with a thin stratum of plumbago between the layers of iron, melting the charge in the open hearth and finally adding to the melted metal spiegeleisen or ferro-manganese.

**300,874.**—Production of coloring matter from dinitrophenal.—F. Krüger, G. Tobias and E. Kegel.

Production of dinitrophenolsulphonic acid and its salts, by means of nitrating phenolsulphonic acid or mononitrophenolsulphonic acids or their salts.

**300,890.**—Liquid cement for giving a cheap and durable metal coating to papiernache, plaster of paris, clay, &c.—F. Philipp.

**300,928.**—Apparatus for the manufacture of vinegar.—A. Wecker.

Not intelligible without the drawing.

**300,950.**—Process of an apparatus for the separation of metals from ores and alloys.—H. R. Cassel.

Consists in charging the auriferous ore or alloy in a powdered condition into an anode compartment, which is separated from the cathode compartment by porous material, said anode compartment containing a solution yielding nascent chlorine under the action of an electric current, and agitating the powdered material within the said solution during the passage of the electric current.

- 300,951.**—Process of chloridizing ores by electrolysis.—H. R. Cassel.  
Subjects the ore to the action of a solution yielding chlorine under electrolytic decomposition.
- 301,006.**—Art of manufacturing fermenting materials.—F. A. Reihlen.  
A ferment composed of a foundation of a vegetable fiber and of a deposit of fungoid growths formed thereon.
- 301,015.**—Filtering composition.—R. M. Sommers.  
Gravel, white bar-sand, animal charcoal and phosphate of lime.
- 301,033.**—Apparatus for concentrating sulphuric acid.—M. Willett.  
Not intelligible without the drawing.
- 301,069.**—Treatment of vegetable fibrous material.—A. Prinz.  
Maceration in an attenuated solution of chloride of lime and subsequent boiling under pressure in an alkaline lye combined with a hydrocarbon or a sulphide of carbon.
- 10,491.**—Reissue, Original No. 227,352, May 8, 1883.—E. Scherff.  
Not intelligible without the specification.

*July 1st, 1884.*

- 301,092.**—Apparatus for generating heating gas.—S. N. Carvalho.  
The gas is produced from hydrocarbons with the aid of steam, superheaters, &c.
- 301,149.**—Mixed paint.—H. C. Petty.  
For the preparation of which no less than fifteen more or less compatible substances are required.
- 301,222.**—Sulphur refining apparatus.—F. Dickert.
- 301,248.**—Treating phosphates of alumina and iron.—G. A. Liebig and J. F. Gibbons.  
Not intelligible without the specification.
- 301,383.**—Manufacture of carbonate of strontium.—E. A. Mebus and J. W. De Castro.  
Consists in reducing sulphate of strontium into an exceedingly fine condition, in mixing it with sufficient water to maintain it in suspension therein and in treating it with carbonate of ammonium or ammonia and carbonic acid.
- 301,390.**—Ice and refrigerating machine.—P. G. and C. A. Randall.  
Relates to improvements in an ammonia ice machine.
- 301,406.**—Manufacture of alkaline phosphates.—S. G. Thomas.  
Consists in treating in a basic lined Siemens furnace or Bessemer converter alkaline chlorides with molten phosphoric iron and an air blast or iron oxide, washing the gases for hydrochloric acid, lixiviating the resulting phosphatic slag and precipitating the solution with milk of lime, whereby caustic alkali and precipitated calcium phosphate are obtained.
- 301,407.**—Manufacture of alkaline phosphates.—S. G. Thomas.  
Manufactures soluble alkaline phosphates from phosphoric non-silicious

molten pig iron in a basic lined Siemens furnace or Bessemer converter by pouring the molten metal upon an alkaline carbonate in such a furnace or vessel, turning on the blast, and with the blast introducing a further quantity of the carbonate, the alkali rising through the bath and combining with the nascent phosphoric and silicic acids and forming a slag of phosphate and silicate of soda and potash, then running off this slag while hot, lixiviating it, and evaporating or precipitating the solution with milk of lime.

**301,436.**—Method of manufacturing starch.—H. Duryea.

Combines the condensed starch water with a solution of caustic alkali, agitates the mixture about four hours and then separates the nearly pure starch from the glutinous solution.

**301,457.**—Ice machine.—J. Patten.

An ice machine where cold is produced by the vaporization of a portion of the ice, alternate moistening of the surface of the ice, then exposing it to a high vacuum, causing the moisture and a portion of the ice to vaporize at the expense of heat from the remaining portion of ice, thereby reducing its temperature, so that when it is again brought in contact with water a thin layer will freeze and congeal to it.

*July 8th, 1884.*

**301,469.**—Process of and 301,469; Apparatus for treating and improving petroleum.—H. R. Angus.

Consists in floating the oil on heated water in a closed tank, continuously introducing steam or heated water therein, flowing off the surplus water at the surface to impart motion to the oil toward the outlet, and at the same time forcibly removing the volatile products generated from the oil.

**301,475.**—Process of printing indigo colors.—J. Bracewell.

Prepares the fabric with a solution of grape sugar or glucose, then prints a mixture of alkali and indigo upon such fabric and subjects the same to the action of steam.

**301,518.**—Apparatus for the manufacture of lamp black.—F. K. Plumbly.

Mechanical arrangements for collecting the cooled lamp black and conveying it to a receiver.

**301,531.**—Apparatus for manufacturing gas.—J. L. Stewart.

Steam is decomposed by incandescent fuel, the gases mixed with the vapors from coal and oil and converted into a fixed gas in a fixing chamber.

**301,617.**—Process of and apparatus for manufacturing artificial stone.—A. A. McCandliss.

Washes the sand with water, steam and sulphuric acid, mixes with a plastic material, places the molded shapes in a curing room and again subjects them to steam, the vapors of sulphuric, hydrochloric or carbonic acids.

**301,636.**—Portable distilling apparatus.—L. Smith.

**301,708.**—Apparatus for the treatment of bones, phosphatic residues, &c.—C. W. Flodquist.

Not intelligible without the drawing.

**301,782.**—Composition for removing scale from steam boilers.—A. Wilson.  
Decoction of tan bark, ooze and catechu, logwood, chestnut leaves, spruce hemlock leaves, gallnuts and sumac bark, carbonate of soda, oil of sassafras and alcohol.

**301,783.**—Method of refining and deodorizing oils and fats.—E. S. Wilson.  
Consists in first forming a soap or emulsion of the material with caustic soda lye by heat and then applying chlorinated alkaline or chlorine to it.

**301,802.**—Manufacture of yellow coloring matter.—H. Caro and H. Kern.  
As a new product, the yellow coloring matter or dye stuff described in the specification, which, when dissolved in alcohol and treated first with sodium-amalgam and then with acetic acid and heat, is decomposed into tetramethyl-diamido-benzhydrol and ammonia.

*July 15th, 1884.*

**301,894.**—Filtering apparatus.—C. F. Holdship.  
A filter consisting of a series of removable sections for filtering petroleum and similar liquids.

**301,910.**—Barometer.—J. Y. McCleary.

**301,971.**—Apparatus for reclaiming glutin or glutinous matters from the spent liquor of starch works.—W. Duryea.

A combination of mechanical devices for obtaining the above result.

**302,130.**—Gas generating and consuming furnace for heating retorts.—J. T. Hasse.

Not intelligible without the drawings.

**302,132.**—Tanning and dressing old leather and articles of same.—E. M. Hewitt.

**302,138.**—Bleaching-Keir.—C. L. Jackson and J. Westley.

**302,158.**—Process of producing a metal high in phosphorus and carbon and low in silicon.—J. Reese.

Consists in smelting iron ores with suitable charges of coke, limestone and phosphorized basic slag in a blast furnace, and then running the molten metal into a silicious-lined open hearth and treating it therein until the metal begins to boil and the elimination of the carbon commences, whereby a metal high in phosphorus and carbon and practically free from silicon is produced.

**302,163.**—Apparatus for cooling and impregnating air and other gases.—J. A. Saladin.

Brings air or other gas continuously into contact with water or other liquid in finely divided condition.

**302,170.**—Manufacture of brown coloring matter.—J. H. Stebbins, Jr.

As a new product, the brown coloring matter described in the specification, which, when treated with reducing agents—such as tin and hydrochloric acid—splits up into beta-amidophenanthrene, aniline, and sulphanilic acid.

*July 22nd, 1884.*

**302,266.**—Treating phosphates for fertilizers.—G. A. Liebig and J. F. Gibbons.

Relates to the treatment of mineral phosphates containing iron and alumina for the purpose of converting them into complete commercial fertilizers.

**302,294.**—Method of and apparatus for compressing and liquefying gases and producing refrigeration.—J. J. Suckert.

**302,326.**—Apparatus for purifying water.—R. d'Heureuse.

Forces air through the water.

**302,387.**—Sugar mixing and cooling apparatus.—G. Engel.

Mechanical device for bringing the sugar into contact with large volumes of air.

**302,443.**—Process of absorbing heat from rooms or material by use of a liquefied gas.—J. J. Suckert.

*July 29th, 1884.*

**302,544.**—Bluing paper.—G. A. Conant.

Paper saturated with solution of Prussian blue, oxalic acid and sugar.

**302,646.**—Composition and manufacture of brick or artificial stone.—G. R. Bare and J. A. Douglass.

Sand, cement, water, water slaked lime, asbestos, coloring matter, malded and passed successively through soap and alum baths.

**302,679.**—Process of making and composition for pavements and other purposes.—J. E. Wynkoop.

Furnace slag, sand, Portland cement and lime water.

**302,739.**—Process of and means for filtering and decolorizing syrups and saccharine juices.—F. Kleeman.

Consists in first adding to the liquor broken or pulverulent brown coal, tertiary coal, lignite, or peat, and then passing the liquor through the usual filtering device.

**302,742.**—Composition for filling wood.—M. Kunz.

Alcoholic solution of finely ground glue and benzine or oil of turpentine.

**302,790.**—Azo coloring matter.—A. Spiegel.

An azo-compound derived from dichlorphenolbetanaphthol, being distinguished by its being soluble in water with a yellow color, and when an alkali is added to the solution, or when boiled with a nitrite, the bisulphite compound is decomposed and a bluish violet salt is precipitated.

**302,791.**—Fastening azo-colors on yarn or textile fabrics.—A. Spiegel.

Impregnates such fibre or fabric with the bisulphite compounds of azo-coloring matters formed from diazo-compounds, combined with aromatic hydroxylated bodies or phenols, together with salts of alumina, iron or chromium, and then exposing the fibre so impregnated to the action of heat or to the action of an alkaliue agent, or of a hot solution of a nitrite.

**302,800.**—*Manufacture of hydrogen dioxide.*—M. Traube.

Consists in bringing water and a flame of carbonic oxide or other gas into contact with each other.

**302,819.**—Cartridge and method of waterproofing the same.—P. Aarbe.

*August 5th, 1884.*

**302,882.**—Apparatus for ageing of liquors.—E. H. Ashcroft.

Injects air.

**302,909.**—Apparatus for the manufacture of gas.—G. W. Harris and A. L. Allen.

**302,970.**—Cleansing compound.—J. B. Ziebach.

Deodorized gasoline, sulphuric ether, alcohol, egg, oil of citronella, and oil of lavender.

**303,065.**—Process of bleaching vegetable tissues.—J. A. Southmayd.

Treats first with permanganate of potash to destroy coloring matter, then neutralizes with oxalic acid, sulphite of sodium, &c.

**303,093.**—Process of and apparatus for the manufacture of compressed asphaltum blocks.—W. S. Wilkinson.

**303,141.**—Process of separating the insoluble from the soluble matter in corn and malt mashes.—A. E. Ferve.

Adds towards end of boiling, for each barrel, about one ounce of Irish moss or gelatinous substance.

**303,142.**—Process of manufacturing beer, syrup, &c.—W. E. Ferve.

Consists in first saturating the corn meal with cold water, then adding malt in limited proportion, then heating the mixture, causing the starch cells to burst, then separating the liquid constituents from the solids, and then adding the remainder of the mash.

**303,144.**—Laundry bluing.—C. Franke.

Concentrated mixture of ultramarine, glucose and water.

**303,146.**—Composition of matter for the production of artificial slate.—H. Gallinowsky.

Burned bones, white lead and linseed oil.

**303,213.**—Compound for making bricks, artificial stone, &c.—H. A. Cooke.

Slaked lime, resin, sand, oxide of iron, gypsum and cement.

**303,221.**—Process of treatment of textile vegetable fibers.—E. Freymy and V. Urbain.

The fibers are boiled in an alkaline lye, the quantity of which is based upon an analysis of the fiber.

**303,232.**—Process of separating gold and silver from arsenide of iron.—E. Probert.

Consists in first melting the substance, tapping it out into pots lined with refractory material, and then introducing granulated litharge or lead into it while yet in a fluid state.

**303,236.**—Phosphorized alloy of copper and aluminium and process of making the same.—T. Shaw.

Aluminium from one-third of one per cent. to five per cent., phosphorus from one-twentieth of one per cent. to one per cent., and the remainder copper.

**303,237.**—Battery for generating electricity.—G. G. Skrivanow.

Contains a negative element coated or covered with chloride of silver, and having potassic or sodic caustic alkaline solution as the liquid in which the positive and negative elements are immersed.

*August 12th, 1884.*

**303,277.**—Apparatus for the manufacture of white lead.—G. H. Smith.

**303,278.**—Manufacture of white lead.—G. H. Smith.

Consists in submitting metallic lead while in a closed chamber to the corroding action of acid, vapor, and air introduced in regulated quantity and proportions under the conditions of temperature and outside pressure as set forth in the specification.

**303,301.**—Art of making artificial asphaltum from the residue of tanneries.—C. Lortziug.

**303,335.**—Azo-coloring matter.—A. Spiegel.

The new coloring matter, the bisulphite compound of dichlorphenolazo ethylbetanaphthol, the same being soluble in hot water, with a yellow color and when an alkali is added to this yellow solution or when it is boiled with a nitrate it is decomposed easily, and a bluish violet salt of the azo-coloring matter is precipitated.

**303,371.**—Manufacture of fertilizing materials.—F. L. Harris.

Saturates phosphates, &c., under pressure in a closed vessel with liquor extracted from animal substances.

**303,376.**—Process of purifying saccharine liquids.—O. H. Krause.

Extracts the sugar from the impurities retained in the bag filters by diluting the latter, adding lime, heating and then separating the sugar by means of filter presses.

**303,378.**—Bone black kiln.—F. O. Matthiessen.

A retort for a bone black kiln, composed essentially of an upper section, which is ventilated for the purpose of carrying off vapors and gases driven out of the bone black by preliminary application of heat, and a lower section composed of a group of vertical pipes, in which the bone black is subjected to a higher degree of heat, and is at the same time kept from contact with the air.

**303,379.**—Bone black kiln.—F. O. Matthiessen.

A series of retorts, each of which consists of a ventilated section, surmounting a heating section composed of a longitudinally corrugated pipe contained within a suitable heating chamber in combination with a circularly arranged group of cooling pipes beneath the heating chamber.



**303,486.**—Method of hardening or improving resins of all kinds.—A. Kissel.

Neutralizes the acids contained in the resins, resinous by-products, &c. with lime or other alkaline earths.

**303,487.**—Process of making ferrocyanides.—H. Kunheim.

Precipitates ferrocyanide of calcium from its solution by means of chloride of potassium for the production of ferrocyanide of potassium or other ferrocyanide.

**303,443.**—Process of washing raw sugar.—F. O. Matthiessen and G. Dinkle.

A series of mechanical operations for removing the greater part of the impurities from raw sugar in an economical manner.

**303,456.** Furnace for desulphurizing and deoxidizing ores.—J. H. Rae.

**303,514.**—Process of extracting cobalt from ores.—H. Herrenschildt and M. Constable.

Consists in subjecting the pulverized ore to the action of finely divided sulphate of iron with water or heat or both, whereby the iron is converted into oxide and the cobalt into sulphate.

**303,571.**—Furnace for roasting zinc and other ores.—E. C. Hegeler.

**303,586.**—Furnace for reducing and smelting ores.—J. C. Newbery, J. L. Morley and B. Cleveland.

Reissue No. **10,507.**—Apparatus for extracting gold and silver from their ores.—R. Barker.

Original Patent No. 273,011 of February 27, 1883. An amalgamation process aided by electricity.

*August 19th, 1884.*

**303,616.**—Waterproofing starched fabric.—R. H. Buel and H. L. Brevoort.  
The surfaced goods are treated with a solution of paraffine in benzine or naphtha, and afterwards subjected to heat to render them water repellent.

**303,736.**—Apparatus for distilling chloride of zinc.—A. Jamieson.

Not intelligible without the drawing.

**303,776.**—Process of defecating and clarifying saccharine liquors.—J. F. and O. Willcox.

Albumen solution is added, then dilute solution of acid, and the liquor heated to 190° Fahr. After this operation it is neutralized with lime, dilute acid in small quantity again added and the liquor filtered.

**303,779.**—Manufacture of white lead.—W. V. Wilson.

Converts part of the carbonate of lead in hydrated oxide of lead by treating the former with caustic potash.

**303,913 and 303,915.**—Desiccating apparatus. H. B. De Witt.

**309,914.**—Apparatus for desiccating fertilizers.—H. B. De Witt.

**303,930.**—Art of treating and utilizing the refuse or waste products resulting from starch manufacture.—P. H. Grimm.

Adds the pressed finely divided nitrogenous residuum to the coarse refuse after the greater part of water has been pressed out of the latter.

**303,962.**—Method of obtaining carbonate of of magnesia.—A. Wunsche.

Forms ammonium magnesium carbonate by introducing ammonia and carbonic acid into a solution of a soluble magnesium salt. The double carbonate is then separated from the lye and worked up into carbonate of or caustic magnesia.

O. H. K.