

From this analysis it would appear that the underground water of the district is little better than that supplied by the water works. It is free, however, from magnesium chloride, which is quite an important constituent of the hydrant water.

## Abstracts of American Patents Relating to Chemistry.

(From the *U. S. Patent Office Gazette*.)

*February 2, 1892.*

**467,916.**—Apparatus for making carbonated beverages. Henry Carse, Rock Island, Ill.

**467,981.**—Brick kiln. George C. Little, Vance, Kau.

**467,987.**—Apparatus for purifying or sorting grits. Carl Haggemacher, Buda-Perth, Austria-Hungary.

**467,992.**—Process of decolorizing vegetable oils. Walter N. Hartley, Dublin, Ireland, and William E. B. Blenkinsop, London, Eng.

The oils to be decolorized are mixed with a suitable proportion of a manganese soap and a current of air or oxygen blown into the mixture.

**467,993.**—Apparatus for the production of yeast or similar substances. Alfred Jörgensen, Copenhagen, Denmark, and Axel Bergh, Stockholm, Sweden.

**468,049.**—Azo dye. Christian Rndolph, Offenbach, Germany.

A blackish powder with metallic lustre, having the properties of dyeing un mordanted cotton directly blackish violet. Soluble in water with violet blue color, and in conc. sulphuric acid with blue color. Reducing agents decolorize the solutions. The dyestuff is obtained by treating tetrazodiphenyl or ditolyl with one molecule of amidooxyalphanaphthalinedisulpho acid and with one molecule of metaoxydiphenylamine or metaoxytolylphenylamine.

**468,050.**—Beer cooler. Valentin C. Trabold, Newark, N. J.

**468,063.**—Amalgamating silver ores. Alexis Janin, San Francisco, Cal.

The ore is subjected to the action of free hypochlorous acid, formed by the action of carbonic acid gas or an acid salt on a solution of chloride of lime, agitating the mixture of ore and solution until the silver minerals are chloridized and the free hypochlorous acid or chlorine present have formed combinations having little or no injurious action on mercury, then adding mercury, and concluding the amalgamation in the usual manner.

**468,066.**—Separator. Fairfax H. Wheelan, Santa Barbara, Cal.

**468,084.**—Feed water purifier. Frederick J. Henderson, Chicago, Ill.

**468,138.**—Apparatus for separating oil and water from gas. Charles L. Stock, Fostoria, Ohio.

**468,142.**—Blue azo dye. Moritz Ulrich, Elberfeld, Germany.

A coloring matter derived from the diazo derivative of the paranido-benzol-sulphonic acid with dihydrooxynaphthalinemonosulpho acid of Letters Patent No. 444,679. The aqueous solution is bluish red, also the solutions with sodium carbonate and ammonia. Conc. sulphuric acid dissolves the dye with deep violet blue color.

**468,148.**—Process of separating aluminium. Charles S. Bradley, New York, N. Y.

“A process for separating or dissociating aluminium from its ores or compounds, consisting in fusing and maintaining the fusion and electrolytically decomposing the compound by the passage of the electric current through it, and regulating the strength of said current in accordance with the requirements of the fused mass.”

**468,216.**—Apparatus for manufacturing oxides of metals. William H. Birge, Franklin, Pa.

Composition of matter and process of preparing comminuted iron ore. Gordon Conkling, Glen Falls, N. Y.

Comminuted iron ore is mixed with magnesium chloride and magnesium oxide and then pressed into bricks or lumps of convenient size and allowed to harden.

**468,232.**—Combined feed water heater, oil extractor, and water purifier. Ferdinand Buer, St. Louis, Mo.

**468,249.**—Machine for decorticating fibrous plants. Charles Lanaux and Manuel E. Rendon, Merida, Mexico.

**468,290.**—Concrete mixing machine. William C. Barr, Jersey City, N. J.

**468,292.**—Method of casting iron pigs, ingots, etc. James W. Cole, St. Louis, Mo.

**468,294.**—Filter. James H. Drake, St. Paul, Minn.

**468,306.**—Cupola furnace. Carl Sahler, Cologne-on-the-Rhine, Germany.

*February 9, 1892.*

**468,320.**—Manufacture of vitreous bricks. James C. Anderson, Highland Park, Ill.

Sodium chloride or kindred salt or alkalies and the clay are mixed while dry, reduced to an impalpable powder, and then pressed into brick or other form and then exposed to heat.

**468,321.**—Art of coloring brick. James C. Anderson, Highland Park, Ill. Coloring matter is applied to the partially burned brick and then subjected to a final burning.

**468,326.**—Apparatus for ageing and rectifying alcoholic liquids by ozone. François Broyer and Paul Petit, Tournus, France.

**468,345.**—Grease Extractor. Levi Hussey and Edward McCann, New York, N. Y.

**468,374.**—Apparatus for charging gas retorts. George C. Trenby London, England.

**468,378.**—Apparatus for separating smoke from gases of combustion. William Willis, Longstreth, Ohio.

**468,404.**—Composition for bricks. William Wade, Louisville, Omaha, Nebraska.

**468,406.**—Ore Washer. Ernest E. Crepin, Chicago, Ill.

**468,408.**—Smoke bleacher. Daniel S. and Peter J. June, Fremont, Ohio.

**468,498.**—Purifying cocoanut oil. George H. Weiss, Jersey City, N. J.  
The oil is treated with steam, then with a mixture of alcohol and sulphuric acid, then again subjected to the action of steam, and finally washed with alcohol.

**468,510.**—Apparatus for the manufacture of lampblack. Godfrey L. Cabot, Cambridge, Mass.

**468,533.**—Metallurgical plant. Edward L. Ford, Youngstown, Ohio.

**468,539.**—Red dye. Otto Borgmann, Berlin, Germany.

The process of consists in combining a "diazo compound of tolidine with beta-naphthylamine disulpho acid R, adding to the resulting intermediate body naphthionate of soda, allowing the mixture to stand until the reaction is complete, neutralizing with an alkali, and salting out the dye stuff." A red dye stuff, readily soluble in hot water, insol. in alcohol, precipitable from aqueous solutions by alkalies, sol. in conc. sulphuric acid with greenish-blue color, and decomposed by reducing agents into tolidine and diamidonaphthalinemono and disulpho acids.

**468,540.**—Ore separator. Henry Cane. Spokane Falls, Wash.

**468,544.**—Crushing mill. Frank A. Huntington, San Francisco, Cal.

**468,546.**—Process of extracting iron or steel or other metals from ores. Nicolas Lébédéff, St. Petersburg, Russia.

The ore or metaliferous material is melted on a bed of limestone or dolomite, and at the time the mass melts carbon is introduced into the molten mass.

**468,558.**—Apparatus for carbonizing the vegetable matter in wool. Benni Bellerstein, Neuss, Germany.

**468,579.**—Machine for dyeing fabrics. William M. Robertson, Newark, N. J.

**468,591.**—Process of ornamenting vases or similar articles. John Baynes, Westchester, N. Y.

**468,599.**—Magnetic separator. Erminio Ferraris, Turin, Italy.

**468,610.**—Mold for casting acid-eggs. Edward Allen, Baltimore, Md.

**468,617.**—Regenerative furnace. William Hill, Collinsville, Conn.

**468,627.**—Manufacture of India rubber. Adolphus I. Rath, Hyde, Eng.

**468,631.**—Ice cream or water ice. William H. Allen, Detroit, Mich.

An edible ice "containing a composition of citric acid and bicarbonate of soda."

**468,645.**—System and apparatus for heating, cooling and ventilating buildings. William M. Decker, Kingston, N. Y.

**468,651.**—Brick or tile machine. Egbert M. Freese, Plymouth, Ohio.

**468,664.**—Filter. Edward M. Knight, San Francisco, Cal.

**468,670.**—Feed water filter and separator. Elwood O. Mandigo, Brooklyn, N. Y.

**468,688** }  
**468,689** } Process for treating finely divided or powdered substances of different specific gravity. Orbin B. Peck, Chicago, Ill.

**468,706.**—Magnetic extractor. Horatio W. Southworth, New York, N. Y.

**468,723.**—Producing opalescent glass. Joseph Kempner, Goerlitz, Ger.  
“A glass batch consisting of 25 units of sodium silicofluoride, 46 of sodium carbonate, 12 units of chalk, 165 units of sand, or substantially these proportions.”

**468,731.**—Fruit evaporator. Charles W. Soverhill, Newark, N. J.

**468,736.**—Furnace for wasting ores. Charles M. Allen, Butte City, Mont.

**468,740.**—Annealing process. Samuel H. Brown, Boston, Mass.

**468,747.**—Process of and apparatus for the manufacture of illuminating gas. Charles B. de Lamarre, Beloxi, Miss.

**468,751.**—Process of making food compounds. Robert McKimney, Detroit, Mich.

Vegetables, sliced or grated, are first saturated in water containing sodium chloride and boracic acid, then bleached, dried, and thoroughly desiccated.

*February 16, 1893.*

**468,777.**—Method of copying written or printed documents executed in carbonaceous inks. George H. Ball, Watervliet, N. Y.

**468,808.**—Method of brewing. Charles F. Lawton, Rochester, N. Y.

**468,809.**—Method of and apparatus for the manufacture of beer. Charles F. Lawton, Rochester, N. Y.

**468,834.**—Regenerative gas furnace and producer. Frederick Siemens, Dresden, Germany.

**468,835.**—Method of working regenerative gas furnaces and gas producers. Frederick Siemens, Dresden, Germany.

**468,851.** } —Furnaces for burning garbage. George H. Warner, Hart-

**468,852.** } ford, Conn.

**468,858.**—Centrifugal filtering apparatus. David Williamson, New York, N. Y.

**468,866.**—Compound for removing grease and stains. George S. Cox, Cooksville, Tex., and Georgia M. Lewis, Rosalie, Tex.

**468,867.**—Manufacturing asphaltum. Jesse A. Dubbs, Allegheny, Pa.  
The method consists in “subjecting crude petroleum or residuum thereof and sulphur to a suitable heat, reducing such heat, charging in an

additional amount of sulphur, again subjecting the entire charge to a further heat, adding more sulphur, and continuing the heat until the product has attained the desired degree of hardness."

**468,880.**—Electrolytic cell. Ernest A. Le Sueur, Ottawa, Canada.

**468,887.**—Electrolyte or depolarizing solution for galvanic batteries. Samuel Miller, London, England.

The solution contains sodium nitrate, potassium bichromate, sodium chloride, and a suitable acid.

**468,891.**—Apparatus for concentrating sulphuric acid. Charles Négurier, Périgneux, France.

**468,913.**—Distilling apparatus. Nelson Hunting, Albany, N. Y.

**468,931.**—Ore concentrator. Hannibal Scovell, Portland, Col.

**468,937.**—Viscid fatty compound. Adolph Summer, Berkeley, Cal.

The improvement in preparing the compound consists in cooling the oil to a temperature of about or below 15° C previous to the addition of the chloride of sulphur.

**468,956.**—Process of producing inflammable gases. Alonzo Noteman, Toledo, Ohio.

**468,984.**—Filter. Ernest Boeing, Bodenheim, Germany.

**469,037.**—Apparatus for treating ores. Oscar Bilharz, Freiberg, Germany.

**469,053.**—Manufacture of glassware. George Beatty, Tiffin, Ohio.

**469,058.**—Device for cooling and graining maple sugar. John W. Currier, North Troy, Vt.

**469,065.**—Ore pulverizer. Jacob A. Pearse, Denver, Col.

**469,086.**—Composition of matter for fire kindling. Henry W. Kling, Syracuse, N. Y.

A composition consisting of sawdust, resin, charcoal, pitch, vegetable oil and tallow.

**469,104.**—Zinc furnace. Herman G. Tessmer, Pittsburg, Kan.

**469,108.**—Hydrocarbon burner. Lewis B. White and John V. Reitmayr, New York, N. Y.

**469,111.**—Process of making plastic compositions. Joseph H. Amies, Scranton, Pa.

**469,120.**—Ore crusher. Joseph Brumbach, Gold Hill, Ore.

**469,142.**—Composition of matter. Philip H. Holmes, Gardiner, Me.

A composition of matter consisting of plumbago, finely divided fibre and cotton seed oil molded under pressure into desired forms and solidified and hardened by heat.

**469,151.**—Brick kiln. Charles Klose, Dornphan, Neb.

**469,202.**—Ore concentrator. Gustavis L. Cudner, New York, N. Y.

**469,207.**—Air cooling and purifying apparatus. Israel L. Good, Allentown, Pa.

**469,212.**—Smoke consumer. John N. Merrill, Burlington, Iowa.

*February 23, 1892.*

- 469,222.**—Fiber cleaning machine. José G. Bodin, New York, N. Y.
- 469,225.**—Brick machine. Michael Bierline, Chaska, Minn.
- 469,238.**—Apparatus for making cylindrical rods of parchimentized fiber. Robert P. Frist, Wilmington, Del.
- 469,240.**—Process of manufacturing floor cloth or like fabrics. Henry W. Godfrey, Charles F. Leake and Charles E. Lucas, Staines, Eng.
- 469,244.**—Blue-printing apparatus. Paul Heinze, Chicago, Ill.
- 469,264.**—Smoke consumer and fuel saver. Gordon McDowell, Evans-ton, Ill.
- 469,269.**—Process of smelting and raising fumes from complex ores.
- 469,285.** Insecticide. William D. Sunderlin, Green Island, N. Y.  
A dried and pulverized precipitate obtained from the liquor employed in making caustic soda solutions and known as "lime mud."
- 469,305.**—Lard cooling tank. Benjamin Rosenthal and Orville D. Noble, Chicago, Ill.
- 469,329.**—Blue dye. Arthur Weinberg, Mainken, Germany.  
A thionine derivative of paratoluylenediamine, a dark green crystalline powder easily sol. in water and in spirits. Sol. in alcohol with blue color which is turned red by caustic soda. Sulphuric acid dissolves the dye with a pure green shade.
- 469,399.**—Brick machine and mold sander. John Farnen and John Mulloy, Chicago, Ill.
- 469,406.**—Glass furnace. William F. Modes, Streator, Ill.
- 469,439.**—Apparatus for the final concentration of oil of vitriol. Russell S. Penniman, Dover, N. J.
- 469,443.**—Vapor burner. John E. Donovan, Cincinnati, Ohio.
- 469,450.**—Filter. Virgil H. McConnell, Buffalo, N. Y.
- 469,454.**—Process of and apparatus for controlling the discharge of molten contents of crucibles or other vessels. Augustus J. Rogers, Mil-waukee, Wis.
- 469,477.**—Refrigerating apparatus. Charles W. Isbell, New York, N. Y.
- 469,495.**—Rotary disintegrator and separator for fibrous materials. Berthold Ziegler, Todtnau, Germany.
- 469,498.**—Apparatus for refining oils. Christian Dorn, Philadelphia, Pa.
- 469,538.**—Process of an apparatus for electroplating the hulls of vessels. Alexander D. Buchanan, Long Island City, N. Y.
- 469,566.**—Amalgamator. James W. Hawthornthwaite, San Francisco, Cal.
- 469,574.**—Apparatus for the manufacture of Gas. James R. Kendall, Terre Haute, Ind.
- 469,599.**—Method of and apparatus for separating slime or fines from water used in milling oils. Albion M. Rouse, Boulder, Col.
- 469,634.**—Paint. William B. Grover, Philadelphia, Pa.  
Bituminous gas coal tar is used as the basis and mixed with various acids resisting minerals.

J. F. G.