

mordants for dyeing "black cotton Italians" is objectionable, since in a short time the black becomes a green olive, and a predisposition to mildew is induced.

In dyeing goods of mixed cotton and woollen, the latter must be dyed before the cotton is either bleached or dyed.

In the dyeing of "shot" or two-colored effects, sodium stannate or tin chloride cannot be used as mordants.

As regards fixing coal-tar colors on cotton, the author divides the colors into basic colors and acid colors. The first have, as a rule, a much greater affinity for cotton, though it is usually preferable to use mordants with them. The acid colors do not dye cotton well, even with a mordant, but simply serve as impregnation colors. (*J. Soc. Ch. Ind.* III., 2, 141). E. W.

Abstracts of American Patents relating to Chemistry.

February 26, 1884.

294,003.—Hot-blast apparatus for blast furnaces.—J. F. Bennett.

294,051.—Process of making copper salts by the aid of electricity.—J. K. Kessler.

Claim.—1. The process of making basic acetate of copper, which consists, first, in passing an electric current through a solution of potassium chloride or sodium chloride, using copper as an anode and any suitable substance as a cathode, keeping the products formed at the opposite poles separate from each other, and then mixing them together, whereby hydrated suboxide of copper is precipitated, and secondly, in mixing the precipitated suboxide of copper, properly washed and dried, with neutral acetate of copper, moistening the mixture with water, and exposing it to the air.

294,052.—Lactometer.—A. R. Leeds.

Consists of a cylindrical glass vessel in combination with a glass stopper, made of any non-transparent material, on which are drawn lines at regular intervals and parallel to the circumference of its base, forming a graduated scale.

294,080.—Manufacture of cement.—L. Roth.

Burns and pulverizes a mixture of blast furnace cinder, carbonate of lime, and an alkaline chloride.

294,159.—Process of extracting sugar from molasses, syrups and the juices of plants.—C. Steffen.

Consists (1.) in mixing, with an aqueous saccharine solution, enough lime at one operation to form, first, a lime-saturated saccharine solution; and, second, a precipitate of calcareous saccharate, the temperature of the mixture being maintained below 95° Fahr., and as nearly uniform as possible.

(2.) In the process of reducing the percentage of lime in the finished and purified saccharate, before its conversion into sugar, which consists in mixing the hard, purified saccharate with a saccharine liquid, and then separating the precipitated hydrate of lime by filtering.

294,285.—Process of an apparatus for the production of highly purified alcohol.—J. A. Stelzner.

Consists in injecting the crude alcohol into the still in the form of spray, vaporizing and purifying the same by means of injected steam into the sprayed alcohol, and injecting water in the form of spray of gradually diminishing temperature into the combined steam and alcohol vapors as they rise on their way to the rectifying column. The sprayed alcohol is also subjected to the action of an alkali or an oil, for the purpose of removing impurities contained in the crude alcohol.

294,301.—Apparatus for producing and burning gas.—L. D. York.

Brief. Gas is produced for heating and other purposes by passing air through gas-producing coal, so as to produce perfect combustion in the lower part thereof, forming carbonic acid, then converting such gas into carbonic oxide, and, at the same time, distilling off the heavy hydro-carbons by passing the carbonic acid up through the mass of coal, then introducing super-heated steam into the gaseous products, and finally passing them down through a bed of incandescent carbon, whereby the added steam is decomposed, forming an additional volume of carbonic oxide and hydrogen, and the gases are fixed.

294,314.—Regenerative hot-blast stove for blast furnaces.—B. Ford and J. Moncur.

March 4, 1884.

Reissue 10,457, Original No. 252,783.—Centrifugal filtering or straining apparatus.—S. M. Lillie.

294,425.—Manufacture of linseed oil.—A. J. Adams.

Extracts the linseed oil from flaxseed by moistening the seed in neutral oil, grinding the moistened seed, and pressing and filtering the oil from the ground seed.

294,530 and 294,531.—Art of manufacturing starch.—W. W. Underhill.

Consists in first bringing the starch water or starch liquor, which has been

separated from the bran or coarser portions of the soaked and ground grain, to a density of 3° or 6°, then adding sufficient sulphurous acid to obtain an acid reaction, and afterwards recovering the starch by subsidence from the starch water.

The second patent relates to a similar treatment of the "tailings."

294,534.—Apparatus for manufacturing gas.—B. Van Steenberg.

Brief. Gas is made by the decomposition of steam and oil in contact with carbonaceous material in heated retorts.

294,592.—Manufacture of cream of tartar.—F. Dietrich.

Consists in treating the dissolved argols with phosphoric acid or its compounds, boiling the mixture, clarifying it with clay, and finally decolorizing it with animal charcoal which has been previously treated with muriatic acid.

294,602.—Hydrocarbon gas Generator.—J. Flannery.

294,619.—Bleaching of paper pulp or other fibrous or textile materials, or fabrics.—E. Hermite.

Decomposes chlorides of sodium or potassium by an electric current, under such conditions as to cause the formation of an alkali (soda or potash) and a metallic chloride, preferably lead chloride. Then decomposes the metallic chloride in the presence of the materials that are to be bleached, and recovers the metal in the metallic state for use in the subsequent operations.

294,646.—Apparatus for generating and purifying gaseous fuel.—S. Lloyd.

294,661.—Plastic compound from pyroxyline and mica.—G. M. Mowbray. Consists of mica, soluble pyroxyline, coloring matters, and inert substances to serve as a body thereto.

294,727.—Composition for cleaning and renovating fabrics.—T. Ewing.

Cleans and restores the colors of fabrics by applying to them a composition of aniline solution, alkali and ammonia, and then sponging the fabric.