"Cement Age" and "Concrete Engineering" Consolidated.—Cement manufacturers, engineers and chemists will be interested in the announcement that *Cement Age*, of New York, and *Concrete Engineering*, of Cleveland, two of the leading monthly publications in the cement field, have been consolidated. *Cement Age*, which was established in 1904, has been issued under the editorship of Mr. Robert W. Lesley, Vice-President of the American Society for Testing Materials, and an associate of the American Society of Civil Engineers, who is also one of the most prominent figures in the cement industry in this country. *Cement Age* has covered the popular features of cement construction, as well as the engineering and manufacturing side of the industry, and *Concrete Engineering* has been especially devoted to that branch of the industry indicated by its title. Beginning with the January, 1911, issue, the two magazines will be consolidated under the title "*Cement Age with which is combined Concrete Engineering.*" The magazine will be slightly larger than the present size of *Cement Age*, and will have a type page 6 × 9 inches, thus retaining the distinctive magazine form which has been a popular feature of the older publication. The increased space will be more acceptable to both readers and advertisers. A two-column make-up will be a further innovation.

It is the purpose to preserve the best features of both the magazines, thus maintaining the prestige each has won. The use of cement from the architectural and engineering standpoints, as well as its manufacture, will be thoroughly covered, together with the popular features that are of such great interest to the general public.

Allen Brett, editor of *Concrete Engineering* for the past two years, will take the position as associate editor of the new publication, and Arthur E. Warner, formerly business manager of *Concrete Engineering*, will become the western manager. There will be no change in the present staff of *Cement Age*, Mr. Lesley continuing as editor, Frederic F. Lincoln as president of the Cement Age Company, in charge of the New York office at 30 Church Street and of the eastern advertising field, and Edward A. Trego as associate editor.

The *Mining World Index* conducted by the *Mining World* will mark an important inauguration in mining periodical literature. It aims at no less a project than to systematically index each week all the current periodicals and other literature relevant to any branch of the mining, mining engineering, metallurgical, and mineral and rock products industries. The value of this bibliographic work to technologists is self-evident.

RECENT INVENTIONS.

The following patents relating to Industrial and Engineering Chemistry are reported by C. L. Parker, Solicitor of Chemical Patents, McGill Building, 908 G St., Washington, D. C.

Only a few patents which are deemed of greatest importance are abstracted in this department.

Abstracts of all patents appear regularly in *Chemical Abstracts*, to which publication the reader is referred.

977,992. Process for the Recovery of the Paraffin Ingredients from Cannel-Coals. HENRY WURTZ, Newark, N. J.

To obtain all hydrocarbon ingredients of cannel-coal, and

other similarly constituted materials, and to recover them in a chemically unchanged condition, patentee subjects such bituminous raw material, in an atmosphere of neutral gases, to a temperature only sufficient to render these hydrocarbons fluid, and then to suction by a strong, mechanically produced current of these neutral gases, whereby the hydrocarbons, having been rendered sufficiently fluid by the heating, are separated and removed from the solid constituents of the material treated. The suction, created by the current, materially reduces the pressure in the chamber, where the bituminous raw material is thus treated, thus creating a condition favorable to expansion and assists also materially in extracting the hydrocarbons of higher degree of consistency from among the fibers and pores of its carbon structure.

The neutral gases, enveloping the hydrocarbons thus extracted, constantly, during this transitory period, while they are in this heated and fluid state, prevent their oxidation, and neutralize their tendency to split and form other chemical compounds. Finally, the hydrocarbons are separated from the protecting

neutral gases by condensation. This is effected by cooling the current of neutral gases, conveying the hydrocarbons in their fluid state, though a large proportion of the specifically heavier hydrocarbons is quite rapidly precipitated from the gaseous vehicle as soon as the velocity of the current is diminished. The chemical composition of hydrocarbon constituents of cannel-coal and of similar bituminous materials thus recovered is not changed, or in any respect materially modified. They are recovered in their crude state, and to render them available for further industrial uses, they must be separated from each other and refined. The processes for separating and for refining them are no part of the invention set forth and claimed herein, and therefore are not described.

An apparatus suitable for carrying on this education process is shown illustrating a vertical transverse section thereof, and consists, essentially, of an education chamber, B, designed to be hermetically closed after the charge of the cannel-coal or of a similar bituminous material was placed therein; an exhaustor, F, connected by a conduit, 14, with the bottom part, E,

of the education chamber; chambers 1 for producing or heating the neutral (deoxidized) gases; flues L for conveying these neutral gases into the education chamber; and devices (valves 26) for governing their admission.

977,996. Method of Smelting and Refining Copper Ores and Compounds. RALPH BAGGLEY, Pittsburg, Pa.

This is a method of extracting copper, gold, silver and other metals from ores, which consists in dissolving or melting ores that contain within themselves oxidizable elements, by sub-

978,211. Art of Extracting Metals Electrolytically. JAMES HART ROBERTSON, New York, N. Y.

This invention is directed to a novel method of extracting gold and other precious metals from their ores after they have been reduced in a very minute or finely powdered state, and it has for its objects, first, to provide a method of effecting this result in as simple, efficient and inexpensive a manner as possible; second, to devise a method of extracting gold when found in other than a metallic state (chlorids, for instance) by the agency of electrolysis and in such manner that the gold

Fig. 1.

mergence in a molten bath of matte and by the heat of oxidation produced by forcing air through the same, and eliminating the silica, alumina and lime, then separating the slag from the low-grade matte, then transferring the matte into a converter, oxidizing it therein, adding value-bearing silicious ore, and form-

is deposited on the cathode of the apparatus used in practicing said method.

The electrolyte which is illustrated as submerging the anode and cathode when used in the process of extracting gold may be cyanid of potassium or of any other such equivalent materials as are used in the art of electrolytic methods of extracting valuable metals and the anode and cathode may be located in the body of the electrolyte in any preferred manner, or may be of any preferred material and construction or shape, such matters coming well within the skill of those versed in the electrolytic art generally, the essential feature being that they shall be so located as to readily remove the cathode for the

Fig. 2.

ing thereby silicate of iron slags, and then eliminating residual oxidizable impurities by forcing air into the bath.

The accompanying illustration shows apparatus in which the patentees method can be carried out.

purpose of extracting the gold therefrom by fusion in the usual way.

The cathode is illustrated in the drawing as being suspended from the conducting rod 2 by good conducting metallic hooks, 9, 9.

The ore to be treated is first pulverized or ground to a fine powder and gradually fed into the electrolyte which is kept in an agitated condition or circulation by steam, hot air or gas issuing from the sources of supply, not shown, through the pipes 7 and 8. A relatively large amount of the powdered ore will remain in suspension while the liquid is in motion when it is placed in the vat and is simultaneously subjected to the action