

preparation, special attention being given to the processes for cyanide recovery.

Finally the speaker's scheme of producing gas at the coal mine and shipping it by pipe line was discussed, and it was noted that Sir Wm. Ramsay had recently given this suggestion his endorsement.

**The Commercial and Financial Aspects of the Gas Industry.** By GEORGE B. CORTELYOU, President of the Consolidated Gas Company of New York.

A portion of this address was devoted to a historical account of the development of the gas industry together with a discussion of the objections raised to the introduction of gas.

The ever-increasing output of gas, notwithstanding the competition from electricity, kerosene lamps, etc., has been accompanied by a steadily diminishing price of gas. Sales of gas in large cities grow almost twice as fast as the population. In view of this fact, the speaker predicted a steady growth of the gas business, if properly operated, with constant provision for invention and improvement. The importance of scientific salesmanship, combined with efficient and prompt service, was strongly emphasized.

The speaker discussed the relations of employees to the company and the public; franchises, municipal and private ownership; competition vs. monopolistic control of Public Utilities; and Commission Regulation.

**The Technic of Gas Manufacture.** By ALFRED E. FORSTALL, Secretary Trustees Gas Educational Fund of the American Gas Institute.

Being unable to find a description of manufacturing apparatus specifically stated to have been used in the first works of the Chartered Gas Light & Coke Company, the speaker told of the apparatus described by Accum in 1815. This was followed by a detailed account of the modern coal gas plant, the various improvements being noted in order.

The fact that more than two-thirds of the total amount of illuminating gas made and sold in this country is carburetted water gas, called for a description of its methods of manufacture. Brief mention was made of the California process, the use of wood gas and of "Mond gas."

Especial attention was called to the many factors which enter into the control of gaseous products and by-products due to the complex nature of the raw materials, final products and the reactions that take place in the process of manufacture.

**Gas as an Illuminant.** By VAN RENSSELAER LANSINGH, President of the Illuminating Engineering Society, New York.

After a discussion of lighting by torches, candles, oil lamps and kerosene lamps, the speaker took up gas lighting, beginning with Murdock's burner which was merely a small iron tube open at the end. This was succeeded by the bats-wing, the fish tail, the Argand and the regenerative burners.

The invention of mantle burners by Auer von Welsbach in 1885 made modern gas lighting possible.

Flat flame burners are now used only in special instances and no reliance can be put in the consumption rating of these burner tips on the American market.

Much poor gas service can be traced to failure to select mantle burners adapted to the existing quality of gas and pressure conditions. With ordinary shades, flat flame burners give spherical distribution of light, upright incandescents give two-thirds of their light above, and inverted burners two-thirds below horizontal. High pressure increases the candle power of mantle burners as much as two and one-half times and is used chiefly in street lamps. With increased candle power, diffusion becomes more and more necessary so that bare mantle burners are rare.

Methods of gas ignition were merely noted.

The speaker recommended greater range in size of units, reliable methods of commercially rating lamps and standardization of mantles, lamps, and fittings.

**The Use of Gas for Heat and Power; The Testing of Gas.** By MR. E. B. ROSA, Chief Physicist, Bureau of Standards, Washington, D. C.

With more than 1300 gas companies in the country, with a combined capital of one billion dollars and annual sales of two hundred million dollars, the gas industry is indeed an important one.

Mr. Rosa discussed the use of coal, acetylene, natural and producer gases, and the historical development of the use of gas for cooking, water heating, room heating and industrial purposes. This was followed by a brief resumé of the work that has been done on the various types of gas engines.

Thanks were extended on the part of the Bureau of Standards to the officers and technical staffs of the various gas companies and to the members of public service commissions, gas inspectors and consulting engineers for the fairness and broad-minded spirit they have shown in discussing the questions connected with the work now being done by the Bureau towards the standardization of the testing of gas.

The work accomplished already was discussed and special stress was laid on the necessity for using the *net heat* for measurement of the heating value of a gas. The effect of atmospheric conditions on the gross heat was shown and it was suggested that a committee of the American Gas Institute coöperate with the Bureau in studying the question "*Shall the actual net heat be substituted for the gross?*" Mr. Rosa believes that since instruments and methods of measurement are more accurate than ever before, uniform standards of gas quality should be adopted, taking into account varying density as well as accurate measurements of volume and quality. The next publication of the Bureau will take up these questions of testing methods, and the cordial coöperation of the gas interests is earnestly solicited.

#### AMERICAN ELECTROCHEMICAL SOCIETY RESEARCH FUND.

In order to further the objects of our Society as given by our Constitution, it has seemed wise to try the experiment of assisting purely scientific research work in electrochemistry where this is done under conditions which would make the application of a few hundred dollars annually of effective and efficient assistance.

For this purpose, \$250 is made available for this year, to be given in whole or in part to help members of the Society who need such assistance to carry on some predetermined work.

The Committee does not wish to burden the scheme with unnecessary rules or requirements, and proposes to carefully consider requests for this assistance on the merits of the case as it may be presented. If the further developments of the scheme warrant the issuing of limitations on the distribution of the fund, such will be published.

The Committee's aim will be to give assistance to those who are apparently equipped to do effective work along those purely scientific lines which are not usually explored by commercial or industrial organizations. In other words, we wish to advance the science of electrochemistry.

The research work thus assisted must be published in the Transactions of the Society.

Applications may be sent to the Chairman of the Committee and should be received before August first.

W. R. WHITNEY, *Chairman*,  
W. H. WALKER,  
F. A. J. FITZGERALD.

#### MAINE SECTION OF THE AMERICAN CHEMICAL SOCIETY.

The recently authorized Maine Section of the American Chemical Society held its initial meeting in Fernald Hall on the University of Maine Campus on May 16, 1912. The meeting was attended by about thirty enthusiastic members of the

Section and at the afternoon meeting, at which papers were presented, there were present a number of student chemists of the University of Maine. Papers were presented by Mr. A. B. Larchar, of Oldtown, on "Some Practical Observations on the Electrolysis of Brine;" by R. H. McKee on "An Oil from the Red Spruce;" and by L. M. Burghart on "Some New Forms of Chemical Apparatus."

After discussion the meeting temporarily adjourned to give opportunity for the preparation of a lunch which was served in the laboratory. After lunch a short business meeting was called to order by R. H. McKee and a committee nominated the following officers who were elected to serve until organization has been perfected and by-laws adopted: *President of the Section*, A. B. Larchar, Oldtown; *Councilor*, R. H. McKee, Orono; *Secretary and Treasurer*, H. H. Hanson, Orono. The officers named were elected as an executive committee to arrange for the next meeting and to present at that meeting by-laws to govern the Section.

H. HANSON, *Secretary*.

#### ORGANIZATION OF COMMITTEES FOR STUDY OF INDUSTRIAL DISEASES.

The membership of the Committee on Industrial Diseases of the New York Association for Labor Legislation is made up of the following:

PROF. HENRY R. SEAGER, President of the American Association for Labor Legislation, *Chairman*.

PROF. SAMUEL McCUNE LINDSAY, President New York Association for Labor Legislation, *Ex Officio*.

DR. CHARLES L. DANA, Chairman Committee Public Hygiene, Academy of Medicine, *Ex Officio*.

DR. JOHN B. ANDREWS, Secretary American Association Labor Legislation.

CHAS. BASKERVILLE, Professor of Chemistry, College of the City of New York.

DR. WARREN COLEMAN, New York Academy Medicine.

MR. MILES M. DAWSON, Actuary.

MR. LEONARD W. HATCH, Statistician Department Labor, State of New York.

MR. FREDERICK L. HOFFMAN, Statistician Prudential Life Insurance Co.

DR. JOHN H. HUDDLESTON, New York Academy Medicine.

DR. JAMES ALEX. MILLER, New York Academy Medicine.

DR. W. GILMAN THOMPSON, New York Academy Medicine.

DR. LINSLEY R. WILLIAMS, New York Academy Medicine.

PROF. C. E.-A. WINSLOW, College of the City of New York.

MR. PAUL KENNADAY, Secretary New York Association Labor Legislation.

The Committee on Occupational Diseases in Chemical Trades, New York Section of the American Chemical Society, is as follows:

DR. GEO. P. ADAMSON, Baker & Adamson Chemical Co., Easton, Pa.

MR. W. H. BASSETT, American Brass Co., Waterbury, Conn.

MR. WM. F. DOERFLINGER, Mutual Chemical Co. of America, 55 John St., New York City.

DR. A. C. LANGMUIR, Chairman New York Section, 9 Van Brunt St., Brooklyn, N. Y.

DR. GEO. D. ROSENGARTEN, Powers, Weightman & Rosengarten, Philadelphia, Pa.

DR. A. H. SABIN, National Lead Co., 129 York St., Brooklyn, N. Y.

MR. E. C. UHLIG, *Secretary*, Brooklyn Union Gas Co., 5th & Hoyt Sts., Brooklyn, N. Y.

#### ORGANIZATION OF RUBBER SECTION.

*Editor of the Journal of Industrial and Engineering Chemistry:*

At a meeting of the Rubber Section of the American Chemical Society held on June 5th, the following committees were appointed:

*General Rubber Consideration Committee:* D. A. Cutler, *Chairman*; H. van der Linde, W. E. Piper, G. T. Cottle, A. D. Hopkins, D. Spence, Dorris Whipple, C. R. Boggs, H. Fay, W. C. Geer.

*Analytical Committee:* Dorris Whipple, *Chairman*; J. W. Schade, P. H. Walker, J. B. Tuttle, G. T. Cottle, Geo. Oenslager, W. A. Ducca.

*Committee on Specifications:* C. R. Boggs, *Chairman*; G. H. Savage, H. Fay, W. C. Geer, H. B. Rodman, D. A. Cutler.

It was also decided to have the General Rubber Consideration Committee ask all the members of the Section to submit the best known method for analyzing rubber goods; the Committee is then to select the best method, submitting same to the American Chemical Society asking the Society to publish this as being the best authority known to it at the present time. The Analytical Committee will, in the meantime and in the future, attempt, by research and such other methods as it may select, to revise this adopted method from time to time, as may seem best for the interests of the Rubber Section, the object being that any chemist in the country who may have occasion to analyze rubber goods may have an authorized standard method of procedure.

When this has been accomplished there should not be such a variance in the results reported from different chemists who analyze vulcanized rubber products. We hope to have this accomplished so that it may be announced at the coming International Conference in September.

D. A. CUTLER, *Chairman*.

#### PAINT AND VARNISH IN THE U. S. NAVY.

*Editor of the Journal of Industrial and Engineering Chemistry:*

I notice in your issue of May, 1912, a communication from Professor Sabin, in which he refers to the steps taken recently by the Naval authorities looking toward the use of so-called "newer paint materials."

Professor Sabin seems to be under the impression that the Navy Department expects to find these materials not so efficient as those previously used, and that they are even willing that such should be the case.

As I have been identified, to some extent, with literature on this subject, and a good deal of prominence has been given to a paper which I presented to the Naval Institute in December last, I feel that I should attempt to correct the impression given by Professor Sabin in his letter.

Although one of the arguments advanced in favor of the use of cheaper paint materials was to the general effect that even if they were not quite so lasting, there would be still ample reason for their use in view of the frequent repainting that is necessary from other considerations, the use, however, of materials that are less effective than those heretofore used actually has not been accepted and all of the changes that have been made by the Navy Department have been made only after extensive experiments showed that there would be no loss in efficiency. The changes to date have been the use to some extent of lower priced and more effective paints in place of red lead as a priming coat, the use of hydrocarbon spirits in place of turpentine, the use of blanc fixe in slate colored outside paint for battleships and cruisers, and the tentative use of fish oil in place of a portion of the linseed oil. These changes were not made, however, until, as noted above, the naval authorities were convinced that there would be no loss of efficiency in durability of the paints or in protective effect.

HENRY WILLIAMS.

NAVY YARD, NEW YORK.

#### A COLORIMETRIC METHOD FOR THE DETERMINATION OF CARBON IN IRON AND STEEL. A NOTE OF PROTEST.

*The Editor of the Journal of Industrial and Engineering Chemistry:*

In the May number of THIS JOURNAL, there is, under the title "A Colorimetric Method of Determining Carbon in Iron and