holding meetings. On Engineers' Day, Wednesday, June 28, all the societies will join in an extensive program. Special trips and programs will be arranged at the fair. In the evening a dinner will be arranged at which will be present engineers and scientific men from this country and abroad. The society is taking an active part in plans for Engineers' Day and it is possible that some of the customary features of an annual meeting will be merged with the general plans.

The following organizations have signified their intention of participating:

American Association of Engineers
American Ceramic Society
American Foundrymen's Association
American Institute of Architects
American Institute of Electrical Engineers
American Institute of Mining and Metallurgical Engineers
American Society for Testing Materials
American Society of Agricultural Engineers
American Society of Civil Engineers
American Society of Heating and Ventilating Engineers
American Society of Mechanical Engineers
American Society of Municipal Engineers
American Society of Refrigerating Engineers
Institute of Radio Engineers
National Association of Practical Refrigerating Engineers
National Council of State Boards of Engineering Examiners
Society of Industrial Engineers
Society for the Promotion of Engineering Education
Western Society of Engineers

Among the technical features being arranged for the thirty-sixth annual meeting, there are the Symposium on Cast Iron, the discussion on Significance of Tests of Concrete and Concrete Aggregates, and an extensive report dealing with physical properties, corrosion-resistant data, etc., of light metals and alloys, in which field this committee functions.

## THE NEW YORK BOTANICAL GARDEN

NINE new corporate members of the New York Botanical Garden were elected at the annual meeting of the corporation held on Monday, January 9, at 2 P. M., in the office of Henry W. de Forest, president, at 165 Broadway, New York City.

They are: Joseph R. Swan, president of the Guaranty Trust Company; Arthur M. Anderson, a partner in J. P. Morgan and Company; Dr. William J. Bonisteel, professor of botany at Fordham University; Richardson Wright, author and editor of *House and Garden;* Raymond H. Torrey, nature study leader; Captain Henry B. Heylman, of Pelham Manor, known as a lover of trees; Robert H. Montgomery, owner of unusual collections of conifers and palms on his two estates, one near New York and one in Florida; George Arents, Jr., financier and owner of an estate in Rye, and Miss Mabel Choate, a daughter of the late Joseph H. Choate.

Arthur M. Anderson was elected as a manager to fill one of the vacancies caused by the deaths of Robert W. de Forest, Edward D. Adams and Frank K. Sturgis. Managers reelected to succeed themselves for three years are Henry W. de Forest, Clarence Lewis, Dr. Lewis R. Morris, N. L. Britton, founder and director-emeritus of the Garden, E. D. Merrill, director, and Henry de la Montagne, Jr., business manager.

In recognition of their gifts of important herbarium material, Frank W. Johnson and Kenneth K. Mackenzie were elected fellows for life. Mr. Johnson's contribution is of approximately 40,000 specimens of North American flora, while Mr. Mackenzie's gift of 60,000 specimens includes an especially complete collection of sedges, of which he has made a special study. Dr. Johnson is on the editorial staff of the P. F. Collier and Son Company, while Mr. Mackenzie is a practicing attorney.

In his annual report, Dr. E. D. Merrill, director, paid tribute to members of the staff and their assistants who have pursued their work diligently in the face of severe retrenchments both in salaries and money for equipment. He said:

> In spite of continued unfavorable economic conditions, in spite of reduced income, in spite of the fact that many suggested and desirable innovations could not be developed because of the financial situation, and in spite of the fact that in an attempt to balance the budget, salary reductions totaling $23,386 had to be made, definite progress has been made in various fields, and several important new projects have been developed. Much that has been accomplished has been due to the loyalty and interest of staff members who have maintained their morale in the face of discouraging circumstances.

An important innovation for the New York Botanical Garden the last year has been the establishment of the school for gardeners and special courses for professional gardeners, the first of its kind opened in this country. Dr. Merrill writes:

> Financial provision for the publication of the results of research by staff members should be made, if possible, to obviate the present discouraging outlook which is essentially to the effect that many researches, no matter how meritorious or how important, must remain unpublished. Staff members, while content with a limited income and an opportunity to prosecute scientific work, are no longer content when there is coupled the handicap of inability to publish the results of their researches.
>
> Lastly, the difficult period through which the institution has been passing during the past three years, and

the practical impossibility of making adjustments to meet the situation in reference to superannuated employes in the entire absence of any pension system, leads me to urge the establishment of an equitable contributory pension system just as soon as this becomes economically feasible.

## OFFICERS OF THE WASHINGTON ACADEMY OF SCIENCES

THE result of election of the officers for the Washington Academy of Sciences was announced at its annual meeting as follows:

*President,* Robert F. Griggs
*Non-resident Vice-presidents,* F. A. Vening Meinesz, Edward A. Birge
*Corresponding Secretary,* Paul E. Howe
*Recording Secretary,* Charles Thom
*Treasurer,* H. G. Avers
*Members of the Board of Managers* for the three-year term ending January, 1936: M. C. Hall, S. A. Rohwer
*Vice-presidents* representing the various affiliated societies of the academy:

Anthropological Society, N. M. Judd; Archeological Society, J. Townsend Russell; Bacteriological Society, N. R. Smith; Biological Society, H. H. T. Jackson; Botanical Society, C. L. Shear; Chemical Society, E. Wichers; Columbia Historical Society, Allen C. Clark; Electrical Engineers, E. C. Crittenden; Entomological Society, Harold Morrison; Geological Society, F. E. Matthes; Helminthological Society, G. Steiner; Mechanical Engineers, O. P. Hood; Medical Society, H. C. Macatee; Military Engineers, C. H. Birdseye; National Geographic, F. V. Coville; Philosophical Society, H. L. Curtis; Society of Foresters, F. C. Craighead; Washington Engineers, N. H. Heck.

At this meeting the affiliation of the Washington Section of the Institute of Radio Engineers with the academy was approved.

The new president, Professor Robert F. Griggs, is professor of botany at George Washington University. Dr. Griggs has been in charge of a number of expeditions to Puerto Rico, Guatemala, Texas and Alaska, the best known of which was the one to the Valley of Ten Thousand Smokes.

## AWARD OF THE CHANDLER MEDAL

DR. GEORGE OLIVER CURME, vice-president and director of research of the Carbide and Carbon Chemicals Corporation, has been awarded the Chandler Medal for 1933, according to an announcement made by Professor Arthur W. Hixson, of the department of chemical engineering in Columbia University, chairman of the award committee.

The Chandler Medal and Lectureship were instituted in 1910 by friends of the late Professor Charles Frederick Chandler, of Columbia University, pioneer in industrial chemistry and a founder of the American Chemical Society.

The aliphatic chemicals with which Dr. Curme has worked are open chain compounds, such as fatty acids, hydrocarbons, alcohols, esters and ethers. Of his work Professor Hixson writes:

Although the achievements of Dr. Curme are only now beginning to be recognized, it is of significant importance that his ideas and his thoughts as expressed to his intimate friends have changed but little in the fifteen years that have elapsed since he began this work. He saw clearly in 1915 and 1916, before anybody else appreciated the possibilities, just exactly what is happening to-day in the field of aliphatic chemistry and he predicted in those days the industrial use of these aliphatic compounds in quantities reaching into the millions of pounds per month, although at the time only test-tube quantities were available.

The achievements of Dr. Curme are many. His original work involved the production of acetylene, the thermo-decomposition of mineral oil inducted by sticking an electric arc beneath the surface of the oil. This was done in 1915–16.

Subsequently he has worked out practical methods for the production of ethylene glycol, ethylene dichloride, ethylene chlorhydrin, ethylene oxide, diethyl sulfate, dichlor ethyl ether and many other compounds. Most of this work has been patented.

Dr. Curme's greatest achievement has not been solely the working out of laboratory methods for making the compounds mentioned above, but in translating these laboratory applications to large-scale manufacturing processes. As is well known to-day, the production of ethylene glycol, ethylene dichloride, ethylene chlorhydrin and some of the other compounds mentioned runs into many millions of pounds annually.

More recently his early work in connection with the production of synthetic isopropyl alcohol and acetone has been commercialized and these products are now available on a large scale. He is considered one of the greatest living exponents of aliphatic chemistry.

The achievement that has attracted the most public interest has been the manufacture of synthetic ethyl alcohol, which was put into production in a large way during April, 1930, but the preliminary work for it had been done and the process well outlined over ten years ago.

Among the previous Chandler medalists are Dr. Leo H. Baekeland, president of the Bakelite Corporation, New York City; Dr. Irving Langmuir, associate director of research for the General Electric Company; Dr. Willis R. Whitney, director of research for the General Electric Company; Professor Moses Gomberg, of the University of Michigan; Professor F. Gowland Hopkins, University of Cambridge, and Professor James Bryant Conant, chairman of the Division of Chemistry of Harvard University.

The formal presentation of the medal will take place at Columbia University early in March, when Dr. Curme will deliver the annual Chandler lecture.