through the rolls in the mill, which provides an important control as regards uniformity and quality. He also contributed to the development of an improved method for producing steel ingots from which sound rails could be rolled. His investigations have contributed materially to the safety of railway travel.

When Dr. Stratton closed his distinguished career at the bureau in 1923 by his decision to accept the presidency of the Massachusetts Institute of Technology, Dr. Burgess was appointed his successor as director of the Bureau of Standards. This selection met with the whole-hearted approval of the bureau staff. The progressive development of the work of the bureau during the past eight years under his direction bears witness to his wise administration. He was active in the development and final adoption of an international temperature scale and in support of the international program now under way to establish the electrical units in absolute measure. Through the research associate plan he developed industrial research at the bureau in cooperation with industry and technical organizations. During the last year of his administration the new national hydraulic laboratory was completed and extensive facilities were provided for the study of radio wave phenomena.

His office door was always open. Interruptions did not seem to worry him. His visitor found him dignified, but friendly, alert, attentive. He reached decisions promptly. His voice was low, his sentences crisp. His sense of humor was keen, and he responded to it with quiet body-shaking laughter. Sedentary in his habits, he had little interest in sports and games. Recreation to him meant a good book and a plentiful supply of tobacco, or a long drive in an open car with a friend. He loved the sea, and a long cruise was for him an ideal vacation.

Dr. Burgess gave generously of his time and energy to further the interests of organizations engaged in the advancement of research and standardization. At the time of his death he was president of the National Conference on Weights and Measures, chairman of the Federal Specifications Board, the National Screw Thread Commission and the Federal Fire Council, a director of the American Standards Association and a member of the National Advisory Committee for Aeronautics. His term of office as chairman of the National Research Council expired on June 30. He was a past-president of the American Society for Steel Treating, the Philosophical Society of Washington, the Washington Academy of Sciences, the American Society for Testing Materials and the Cosmos Club. He was a member of the National Academy of Sciences (past treasurer), the American Institute of Mining and Metallurgical Engineers, the Optical Society of America, the American Institute of Metals, the Physical Society of France, the Iron and Steel Institute of Great Britain and a fellow of the American Physical Society and the American Association for the Advancement of Science. Case and Lehigh had honored him with the degree of Doctor of Engineering.

His memory will be cherished by the staff of the organization to which he gave the greater part of his life, and by his numerous friends in scientific and industrial circles, not alone in America but throughout the world.

LYMAN J. BRIGGS

WASHINGTON, D. C.,
JULY 9, 1932

MEMORIALS

THE centenary of the birth of Sir William Crookes occurred on June 17, and the issue of that date of the *Chemical News,* founded by him in 1859, is dedicated to his memory.

ON the evening of June 8 the graduating class of Duke University School of Medicine planted ivy, from Sir William Osler's home at Oxford, at the entrance to the medical school. At this ceremony Dr. William Sydney Thayer, of the Johns Hopkins Hospital, a former pupil of Osler, made the address.

THE members of the class of 1897 at Lehigh University recently presented to the university a portrait of Dr. Mansfield Merriman, Lehigh's first professor of civil engineering, who served continuously in this position from 1878 to 1907; and of Dr. Joseph Frederick Klein, the first professor of mechanical engineering, who served the university from 1881 to 1918.

THE collected papers of the late Professor J. U. Nef, first head of the department of chemistry in the University of Chicago, have been presented to the University of Chicago Library by his son, Dr. John U. Nef, of the department of economics in the same university. These papers consist of Nef's own reprints of practically all his published articles. Most of them appeared in *Liebig's Annalen,* the *Berichten der Deutsche Chemische Gesellschaft,* and the *American Chemical Journal.* In some cases, Nef made a very considerable number of corrections and comments in the margin, and these have all been included. This collection makes it possible, for the first time, to consult all Nef's works together, and to take account of the changes which he made in them during his lifetime. The articles run to a little more than 1,700 pages, and they have been bound together in three volumes. These may be consulted in the library of the department of chemistry, where they are to be kept permanently.

THE corporation of the Massachusetts Institute of Technology recently passed a resolution in tribute to the late George Eastman, who was a life member of the corporation. Mr. Eastman's gifts to the institute amounted to $20,696,053, which includes a contribution of $500,000 to the Technology Loan Fund, established to aid worthy students. President Compton stated that Mr. Eastman's contributions to various causes during his lifetime exceeded $112,000,000. The resolution expressed the corporation's "profound sorrow at the loss of its admired and beloved colleague, and deep appreciation of his outstanding qualities as a pioneer in business and applied science." The resolution, which was drawn up by President Compton and Francis R. Hart, also expressed the gratitude of the corporation for Mr. Eastman's very generous assistance in the upbuilding of the institute.

RECENT DEATHS

FREDERICK HAYNES NEWELL, consulting engineer, formerly director of the U. S. Reclamation Service and later professor of civil engineering at the University of Illinois, died suddenly on July 5, at the age of seventy years.

DR. FRANK PELL UNDERHILL, professor of pharmacology and toxicology at Yale University School of Medicine, died on June 29, at the age of fifty-five years.

DR. JOSEPH LEIDY, physician, of Philadelphia, a nephew of Joseph Leidy, died on July 6 at the age of sixty-six years.

THE REVEREND DR. C. J. S. BETHUNE, the entomologist, died in Toronto on April 18, in his ninety-fourth year.

PROFESSOR NILS ERLAND NORDENSKIÖLD, the Swedish explorer, director of the ethnographic division of the Göteborg Museum, has died at the age of fifty-four years.

THE death is announced of Jean François Heymans, emeritus professor of therapeutics and pharmacodynamics at the University of Ghent.

DR. MITSUTARO SHIRAI, emeritus professor of plant pathology, University of Tokyo, College of Agriculture, died on May 30, aged seventy years. A correspondent writes: "Professor Shirai began his professional career as teacher of forest botany and plant pathology in this university in 1886. The earlier leadership in phytopathology began in Japan in the previous decade with the arrival from Germany of Professors Hilgendorf and his successor, Professor Ahlburg. These men were primarily lecturers on medical botany, but both included lectures on plant diseases. Following this in 1880 one of their Japanese students, S. Matsubara, gave the first regular course in plant pathology. Thus as an organized branch of botanical science, plant pathology may be considered at least as old in Japan as in the United States. Dr. Shirai in his later years had divided his attention between teratology and the history of botany in the Orient including plant pathology and plant culture in general."

SCIENTIFIC EVENTS

THE BRITISH NATIONAL PHYSICAL LABORATORY

THE annual inspection of the National Physical Laboratory at Teddington by the members of the General Board was held on June 28.

According to the report in the London *Times* in the aerodynamics department there were shown models of the engines of the Flying Scotsman and the Royal Scot expresses, which are being used to assess the air resistance of trains. The object of the experiments is to reduce the resistance by modifications to the form of the locomotive and the coaches, and secure economy in the consumption of fuel. The tests are now in progress, and the forces on the model engines and the coaches are being studied separately in the attempt to discover the ideal streamlined train. In the same department is the new compressed air tunnel which has been constructed for the examination of aircraft, and will enable tests to be made under conditions corresponding to those of a full-scale machine of average size flying at 150 miles an hour.

Recent experiments in the engineering department have included tests of ventilators for public vehicles. It has been found that with the use of long-distance coach services, the problem of ventilation has increased in importance. Various types of appliances have been submitted to the laboratory for inspection, and after numerous tests improvements have been suggested for the purpose of securing efficient ventilation without draught. Visitors to the engineering department will also gain information concerning experiments connected with wind pressures on buildings. It is pointed out that in the design of structures which are to be built on exposed sites allowance has to be made for the pressure of wind, and the modern tendency towards the erection of higher and wider buildings has added to the importance of this subject. The aid of the laboratory has been sought in this matter, and it is stated that, as a result of the experiments it has been shown how economy, as well as efficiency, may be secured in the erection of buildings. The department has also produced a set of safety de-