healthy eggs, which jump into a further tin, and so are separated for laboratory purposes.

Shipments of some twenty different kinds of insects have been sent overseas, generally in cold storage, in special cases with food, such as raisins or sugar and water, for rations. Fourteen consignments of a parasite which attacks woolly aphis—a serious apple-tree pest—have been distributed in England, India and Kenya Colony. This has practically exterminated woolly aphis in New Zealand. Parasites of the wheat stem sawfly, the whitefly and the pine shoot moth have gone to Canada; one which attacks the sheep blowfly has been shipped in large quantities to Australia and South Africa; a Californian ladybird has gone to Madras; a miniature wasp which eats the pear slug has gone to New Zealand and a bollworm to the Barbados. In all, a total of about 58 shipments, comprising some 100,000 specimens, have been shipped from the laboratory to various parts of the Empire.

THE IRON ALLOYS COMMITTEE OF THE ENGINEERING FOUNDATION

A SUMMARY of world progress in the field of iron alloys, advance in which is held to be fundamental for American industry, is the object of a program of research enlisting the cooperation of more than sixty industrial and scientific organizations and corporations of the United States under the leadership of the Engineering Foundation.

A fund of $230,000 to make possible a review of all available literature has been contributed by the cooperating organizations, among which are the American Foundrymen's Association, the Battelle Memorial Institute of Columbus, Ohio, and approximately fifty companies producing or using steel and iron. Universities and technical schools, foreign agencies and bureaus of the United States Government are aiding the project, in which the Engineering Foundation has the active assistance of the American Institute of Mining and Metallurgical Engineers and the American Iron and Steel Institute. The American Society of Mechanical Engineers, American Society of Civil Engineers and American Institute of Electrical Engineers also are cooperating.

The scope of the investigation, which is described as the most ambitious ever undertaken in this field, was outlined by an advisory committee headed by Dr. John Johnston, director of research and technology of the United States Steel Corporation. Supervision of the program, which will require five years for completion, has been delegated to an Iron Alloys Committee, of which Dr. George B. Waterhouse, professor of metallurgy in the Massachusetts Institute of Technology, is chairman.

As its initial task, the foundation and its cooperating organizations are conducting a critical review of all available literature in English and other languages. Coincident with this review, two lines of original research into iron alloys have been initiated. Others will be taken up later as the need for them is revealed by the critical examination of the very extensive literature.

Underlying the plans of the foundation and its associated bodies is the growing necessity for condensed, dependable statements in convenient, classified reference books, of the basic information upon which the future advancement of the iron and steel industry may be built. World competition and increasing demands upon production are expanding the need for research which will keep the United States abreast of progress in the field of iron and steel alloys.

The critical examination of scientific and trade journals and books published during the last forty years in all parts of the world is the first step being taken by the committee. Much progress has been accomplished. A list has been made of approximately 2,000 journals in ten languages, containing information of all kinds on iron and its combinations with other substances, the announcement says. This list is believed to be very nearly complete for all periodicals which have been published for any period since 1890 in twenty-five countries. Books will also be included in the review.

The portion of the enterprise now in hand is searching the literature for information on thirty-nine elements and compounds in twenty-three separate classifications, making a total of more than 800 classifications.

With the cooperation of Lehigh University, a study of the combinations of iron with silicon was begun under the direction of Mr. Bradley Stoughton, professor of metallurgy, who brought to the Engineering Foundation the suggestion that has been expanded into the Alloys of Iron Research. The review of the literature has been nearly completed, a bibliography prepared, some laboratory research done and a monograph drafted.

A grant was made to the Carnegie Institute of Technology to assist a research in the combination of iron with manganese by V. N. Krivibok, associate professor of metallurgy, and associates under the direction of Francis M. Walters, Jr., director of the Bureau of Metallurgical Research. Important results have been achieved in the laboratory, and progress has been made upon a review of the literature. These two projects have proved fruitful not only in information on their subjects, but also in guidance to the committee in devising methods for the whole enterprise.

Through a form designed to expedite abstracting, all the information gathered on each one of hundreds of subjects can be readily assembled. As the review of literature progresses there is being built up a valuable body of reference material on which may be based later a service of great convenience to persons preparing programs for research, patent claims, papers for technical societies and for other purposes. More than 3,000 abstracts have already been made and filed.

The Engineering Foundation has the cordial cooperation of the American Institute of Mining and Metallurgical Engineers and other societies of engineers; the American Iron and Steel Institute, American Foundrymen's Association, Battelle Memorial Institute, Columbus, Ohio; Carnegie Institute of Technology, Pittsburgh; Lehigh University and other universities, iron and steel companies and other industries, the National Bureau of Standards, United States Bureau of Mines, technical journals and numerous individuals. Informal assurances of foreign cooperation also have been received.

Such laboratory research as the committee undertakes will have for its aim the production of basic data which may be freely disseminated. Utilization of the data for commercial processes will be open to the industries.

DEDICATION OF THE JAMES WARD PACKARD LABORATORY AT LEHIGH UNIVERSITY

THE James Ward Packard Laboratory for Electrical and Mechanical Engineering was dedicated at Lehigh University on October 15. Mr. Charles M. Schwab, chairman of the board of trustees of the Bethlehem Steel Corporation and a trustee of the university, who made the dedicatory address, paid high tribute to the late Mr. Packard, donor of the building. Dr. Charles Russ Richards, president of the university, was chairman. The architects, Messrs. T. C. Visscher and J. L. Burley, of New York City, were introduced and the former presented the keys of the building to Mr. Eugene G. Grace, president of Lehigh's board of trustees. The keys were then presented in turn to Dr. Richards, Professor F. V. Larkin, head of the department of mechanical engineering, and Professor S. S. Seyfert, acting head of the department of electrical engineering.

A two-day conference on the relations of technical schools to industry followed the dedication, at which the subjects and speakers were as follows: "What Industry Expects of the Technical Schools": F. A. Merrick, president Westinghouse Electric and Manufacturing Company; L. W. Baldwin, president Missouri Pacific Railway; A. R. Glancy, president Oakland Motor Car Company; M. S. Sloan, president Brooklyn Edison Company; Bancroft Gherardi, vice-president and chief engineer American Telephone and Telegraph Company.

"What the Technical Schools Expect of Industry": Dr. Arthur Maurice Greene, Jr., dean of the School of Engineering, Princeton; Professor Dugald Caleb Jackson, head of the department of electrical engineering at Massachusetts Institute of Technology; David Ross, president of the Ross Gear Company and president of the board of Purdue University, and Dr. William E. Wickenden, president of the Case School of Applied Science.

"The Future of Industry, its Problems and Needs": Magnus W. Alexander, president National Industrial Conference Board, New York City; "Distribution and Its Effect on Industry," Edward A. Filene, president and chairman of the board of William Filene's Sons' Company, Boston; "The Effects of Research on the Future of Industry," Dr. John Johnston, director of research, United States Steel Corporation, Kearny, New Jersey, and "The Methods of Industrial and Business Forecasting," S. L. Andrew, chief statistician, American Telephone and Telegraph Company, New York.

THE FRANKLIN INSTITUTE

DR. HOWARD MCCLENAHAN, secretary of the Franklin Institute and director of the Benjamin Franklin Memorial and Franklin Institute Museum, announces that three heads of departments of the museum have been appointed. Dr. James Barnes, present professor of physics in Bryn Mawr College, has been appointed head physicist and will assume the duties of his office at the completion of his present year in Bryn Mawr. Mr. Charles E. Bonine, of the firm of consulting engineers Bonine and Costa, will serve as head of the engineering section of the scientific staff. Mr. Bonine has already taken up active work in connection with the development of engineering in the new museum. Mr. James Stokley, of Washington, D. C., a member of the staff of Science Service, will be the head of the astronomical section of the new institution. Mr. Stokley will be responsible for the operations of the planetarium section and of the astronomical observatory, as well as the outdoor observatory of the museum. These three men, together with Dr. McClenahan who is himself an electrical engineer by training and has been for some twenty-eight years a professor of physics in Princeton University, form the nucleus for the staff of the new institute. A director of the chemical section will