## INDUSTRIAL RESEARCH IN THE NATION'S INDUSTRIES

A TOUR of research laboratories this fall by one hundred business men and bankers, the purpose of which is to show members of the party what the nation's industries, small and large, are doing in the field of industrial research, has been announced by Professor Dugald C. Jackson, head of the electrical engineering department of Massachusetts Institute of Technology, and chairman of the division of engineering and industrial research of the National Research Council, the sponsors of the tour.

The program of the tour, which is scheduled to take place from October 5 to 14, inclusive, provides for visits to fourteen laboratories, in which research activities by a large variety of industries will be disclosed. Members of the party will have an opportunity to see the latest developments in photography, light, color, electronics, x-rays, industrial chemistry in many phases, rubber research, dirigible construction and other aspects of aviation, motors, electrical apparatus, leather-tanning, research in metals and fuels, etc.

The tour started from New York City, where the party took one of the Eastern Steamship Line boats for Boston. The remainder of the trip was by special train. On October 6, a visit was made in the morning to the Massachusetts Institute of Technology; in the afternoon, visits to the following organizations were optional: Arthur D. Little, Inc.; Dewey and Almy Chemical Company, and the New England Confectionery Company, all of Cambridge; the United Drug Company and the Thompson and Lichtner Company, Inc., both of Boston. Tour activities in and around Boston were conducted with the New England Council as hosts.

During the remainder of the trip the following are among the organizations to be visited: On October 7, the Eastman Kodak Company, Rochester, N. Y.; on October 8, the Goodyear Tire and Rubber Company, Akron, Ohio, and Nela Park, Cleveland; on October 9, the Ford Motor Company, Dearborn, Michigan; on October 10, Tanners Council of America and General Foods Corporation, both at the University of Cincinnati; on October 12, the Battelle Memorial Institute, Columbus, Ohio; on October 13, the Westinghouse Electric and Manufacturing Company, Pittsburgh. On October 14, the party will return to New York City.

Details of the tour have been worked out by Mr. Maurice Holland, director of the division of engineering and industrial research of the National Research Council, who had charge of the arrangements of a similar tour under the same auspices last October, when the following nine laboratories were visited: The Bell Telephone Laboratories, New York City; the General Electric Company, Schenectady; the General Motors Corporation, Detroit; the Material Division, Air Corps, U. S. Army, Wright Field near Dayton; the American Rolling Mill Company, Middletown, Ohio; the Aluminum Company of America and Mellon Institute of Industrial Research, both of Pittsburgh; the U. S. Bureau of Standards and the National Canners Association, both of Washington.

## THE NEW ENGINEERING BUILDING AT THE UNIVERSITY OF WISCONSIN

THE new mechanical engineering building erected at the University of Wisconsin during the past year at an approximate cost of $577,000 was used for the first time in September.

Several hundred tons of ponderous steam and gas engine machinery, some of which has been in use in the training of a generation of University of Wisconsin engineering students, was moved into the new building during the summer months from the old engineering building on the upper campus, under the direction of Professor J. M. Dorrans, assistant professor of mechanical practice and superintendent of the machine shops.

Located at the north end of Camp Randall, the new engineering building is constructed of Madison sandstone, with a frontage of 238 feet and with two wings, each 210 feet long. Built in U-shape, it is three stories high, and contains a mechanical laboratory two stories in height, thus giving necessary space for tall equipment. Besides the general machine laboratories, containing 67 huge machines, and the steam and gas engine laboratory, the building contains various shops, departments, offices, classrooms and drafting rooms.

The new building, which was dedicated during the latter part of June, has been designated as the third milestone in the history of the Wisconsin College of Engineering by Dean F. E. Turneaure, who joined the engineering staff at the university thirty-nine years ago. The first two milestones, according to Dean Turneaure, were the expansion of the engineering teaching staff in the fall of 1891 and the completion of the present College of Engineering Building in 1900; the new building marks the first major addition to the space assigned to the engineering college in more than thirty years.

In the new building is a large picture of Colonel Charles A. Lindbergh, hanging on the wall of the front hall of the new building, and directly opposite it, suspended by cable from the ceiling, is a large navy biplane, which was given to the college by the navy some time ago. The picture, portraying Colonel Lindbergh in flying togs, is approximately eight feet

wide and ten feet long, and was painted for the building by painters at the service building of the university a year or so ago. It recalls the fact that Colonel Lindbergh was enrolled in the college of engineering at the University of Wisconsin some years ago.

## THE CANAL ZONE EXPERIMENT GARDENS

WITH the slow but constant increase in the development of agriculture in the Republic of Panama, there should be a considerable amount of interest in the "Annual Report of the Canal Zone Experiment Gardens," according to the *Panama Star and Herald,* an official publication of the Panama Canal.

The experiment gardens were established several years ago, and prior to that time practically nothing had been done in the matter of the scientific development of agriculture on the Isthmus. The gardens have been operated on a most modest scale and emphasis has been laid on the development of trees and vines, fruits and flowers, as well as the so-called economic plants. As to the relatively unimportant matter of plants and flowers, the situation was well summed up by Dr. Paul C. Standley, who said, in speaking of flora of the Canal Zone: "There is probably no region of Central America which exhibits so mediocre a selection of horticultural or ornamental plants as does this part of Panama. Scarcely one garden plant of any special interest is seen about Panama City, all those planted being the most ordinary and wide-spread tropical ornamentals."

All that has been changed and the experiment gardens have provided hundreds of new varieties gathered from many remote parts of the world.

As an example of the work being done, reference may be made to the introduction, propagation and dissemination of the varieties of sugar cane. The report points out that the sugar industry in Panama is at present suffering much from the mosaic disease and other pests, and that there is a need of varieties of cane resistant to this disease and also of higher sugar-yielding capacity.

To meet this need the gardens introduced many varieties of cane, including a number that have proved satisfactory in other countries. During the last year sample lots for testing under plantation conditions have been distributed without charge to cane growers in the republic. New varieties are constantly being received and developed. The same work is being done with rice—great quantities of which are imported into Panama.

While emphasis is placed on the development of those things which give most promise of producing economic results, the ornamental plants and trees are not being overlooked, and many new varieties, hitherto unknown to the Isthmus, are being constantly introduced and developed. Mention might also be made of the strides which have been made in the scientific development of the avocado, the mango, the pineapple, the banana and even the fig.

Just recently Governor Roosevelt, of Porto Rico, pointed out the great advantages which would result from the establishment by the government of the United States of extensive agricultural experiment stations in the tropics. Both the necessity and the advantages of such outlying stations can not be overestimated.

The valuable work which has been started at the Canal Zone Experiment Gardens at Summit might well be conducted under the U. S. Department of Agriculture. The cost of operating the gardens would not be great and in all probability the expenditure of a sum not greater than $75,000 a year would produce results of incalculable value to the agricultural interests of this part of the world and would be a service worth many times its cost in the goodwill engendered.

## THE NATIONAL ARBORETUM

As an initial step in the development of the proposed national arboretum, the marshland along the Anacostia River in the outskirts of Washington, two and a half miles from Capitol Hill, is being drained by army engineers. With the appropriation of $300,000, which the Congress set aside for the project in 1927, a tract of 268 acres of land has been purchased. The physiography of the area ranges from the water gardens of Kenilworth to the wooded heights of the Hamilton and Hickory Hill tracts, which will be included in the arboretum. The two bodies of land afford the diversity of soil and physiography needed for many types of plants.

The U. S. Department of Agriculture has hitherto been unprovided with a field laboratory of the proper size for experiments with the plant life of the country and horticulturists have supported its efforts to obtain one. A garden will be established to preserve specimens of plant life which come to the Agricultural Department from all parts of the world.

The arboretum will have laboratory facilities as well as museum characteristics. Cultivated and wild plants growing side by side, in the same type of soil and in the same climate, will be studied to aid the breeding of more valuable species.

Horticulturists will have an opportunity to carry on research in developing desirable types of plants with superior qualities from available stock in different localities, and through experimentation it may be possible to eliminate many diseases which now threaten our forests in many sections of the country, such as maple wilt, elm-leaf diseases, chestnut blight and many others.