

MARINE ENGINEERING AND NAVAL ARCHITECTURE AT CORNELL.

In October, 1890, the Board of Trustees of Cornell University authorized the director of Sibley College, Dr. R. H. Thurston, to organize a graduate school of marine engineering and naval architecture as a department of that college. Owing to the difficulty of obtaining suitable officers, no appointments were made until September, 1891, when Professor W. F. Durand, late of the Engineer Corps of the United States Navy, was appointed principal. This appointment was followed some months later by that of Professor G. R. McDermott, late with J. & G. Thompson, Clydebank, as assistant in naval architecture.

The object of the school is to provide courses, both practical and theoretical, where any one possessed of a good general engineering knowledge may learn of the applications of engineering and science to the design, building, powering, and propulsion of vessels of all types. The courses as at present offered cover two years, and are designed to thoroughly ground the student in the fundamental principles of the science, and to give him a large amount of practical application by the study and analysis of existing designs, and the subsequent preparation of designs of an original character.

The present year is considered as formative, but regular courses are given in marine engineering, naval architecture, and ship-building, the work being taken by from twelve to fifteen students. During the coming spring and summer Professor Durand will visit the schools of similar kind in Europe, studying their organization, methods, equipment, and objects, in order that the school may have the advantage, as far as the differing conditions will admit, of the results of experience in these older schools.

The work at the university may be supplemented by an annual excursion or inspection tour of from ten days to two weeks, in which the leading ship-yards and marine-engine shops of the Atlantic coast are visited, in company with one of the teachers. By means of these visits the student is brought into immediate contact with the actual fulfilment of the various problems which he has been studying from lecture, text book, and drawing-board. The practical methods of work are examined, notes and sketches are taken, and a written report on the trip is prepared and submitted.

In the arrangement of the subjects and in the division of time for the professional work, it is intended to give sufficient time to theory and general principles to furnish a good general grasp of the subject, such theoretical work being always illustrated and impressed by applications to practice, and supplemented by a large amount of work more purely practical in character.

The objects to be kept in view are considered as two-fold. First, the power to deal intelligently with the actual problems of ship and power design and construction as they present themselves in practice. Second, the fostering and development of that originality of thought which, under proper control and with other gifts, may form the suggestiveness of mind characteristic of those qualified to aid in the continual advancement of engineering and scientific work.

Of special equipment the school is provided with the following: Several hundred photographs and drawings, both general and detail, illustrative of marine construction of all forms. A number of half-breadth models of ships, including some of the more noted Atlantic liners. A complete set of Copenhagen ship curves, with battens, special drawing-boards, and all appliances for ship drawing. An Amsler integrator of the latest type. Large additions are being made to the books and other professional literature already in the library, and no pains will be spared to make the library equipment as complete as possible in every form of literature relating to marine engineering and naval architecture. The equipment of the general mechanical laboratory, unexcelled in extent by that of any laboratory in the world, is also available for use by the student, and every related department of the university will offer its best facilities for such work as students in the School of Marine Engineering and Naval Architecture may find desirable.

NOTES AND NEWS.

PROFESSOR CRAGIN, in charge of the Department of Geology and Palæontology in Colorado College, Colorado Springs, is now absent on leave in the service of the Geological Survey of Texas, under State Geologist Dumble. His work will be largely palæontological. His headquarters and address are Austin, Texas.

— The committee on the memorial to be erected to the memory of the late G. A. Hirn, the eminent engineer and physicist, composed of selected representative men in his department of research throughout the world, has just issued, through its president, M. G. Kern, a circular inviting contributions from all who desire to aid in this work, and who appreciate the contributions made to science and to the arts by that great man. M. Hirn died at Colmar, Alsace, January, 1890, and this committee was very soon afterward formed for this especial purpose. Its plan is to erect at Colmar a monument, to be designed by his friend, M. Bartholdi, a statue in bronze, the pedestal to be inscribed with the simple words:

G. A. HIRN,
1815-1890.

It is expected that the monument will be erected mainly by contributions from the citizens of his native town; but the voluntary contributions of friends all over the world will be gladly received as tokens of the respect and affection which the man and his work have earned for him. Such funds as may be given for this object may be sent directly to the treasurer, M. Georges Baer, Colmar, and to any member of the committee in this country. Professors Asaph Hall, L. S. Holden, W. B. Taylor, and Dr. Thurston will gladly take charge of them and forward with suitable acknowledgments to the donors.

— At the August meeting, in Washington, of the Society for the Promotion of Agricultural Science, a paper was presented on "Eastern and Western Weeds," by Byron D. Halsted, New Brunswick, N.J. His remarks were founded upon the reports of a large number of botanists and crop growers throughout the United States, received in response to letters sent to them or questions asked through the public press. Having lived for four years in Iowa, and being now a resident of New Jersey, the weeds of these two States have received personal consideration, and therefore these widely separated States will furnish a basis for a comparison of the weeds of the East and the West, not being unmindful of the fact that Iowa represents the central part of our continent, while the West, strictly speaking, reaches beyond the Sierras. The New Jersey list can be made up from the one for Iowa by omitting seventy-five of the native prairie plants, mostly perennials, and adding forty-three, a large percentage of which are annuals. The only single weed of the first rank stricken from the Iowa list in adapting it for New Jersey is a species of pig weed, but even this within the last year has been found within the latter State. On the other hand there are several first-class weeds that are added in the adoption of the western list to the East. Of such, for example, are: a pepper grass, the wild radish, two kinds of cocklebur, feverfew, wild onion, wild leek, nut-grass, Bermuda grass, and a kind of chess, or a total of ten of the worst weeds. That which is true of New Jersey and Iowa likewise holds good for the whole East compared with the whole West. The East is overrun with a larger number of the most aggressive weeds; weeds that assert their ability to resist the forces of the cultivator and plant their banners upon the tilled ground, likewise annual weeds that stock the soil with a multitude of seeds, ready to spring into life whenever an opportunity offers. Some species of weeds are found everywhere, from Maine to California, as *Chenopodium album*, *Amarantus retroflexus*, *Xanthium Canadense*, *Plantago lanceolata*, *Capsella Bursa-pastoris*, and *Portulaca oleracea*. There are others prominent on the Pacific Coast and not elsewhere, as the *Hordeum murinum*, *Silybum Marianum*, and *Malva borealis*. Likewise there are weeds peculiar to the Rocky Mountain region, as the *Iva axillaris*, *Franseria tomentosa*, while on the prairies, especially in Kansas and Nebraska, the following head the list: *Cenchrus tribuloides*, *Asclepias Syriaca*, *Solanum rostratum*, and *Helianthus*