

student, as the representative of the Government of Western Australia at the Exhibition, several samples of hardwood, and reports of tests made by him of the timbers of Australia; Mr. Durie, representative of the Government of New South Wales, several framed photographs; and Mr. Palmer, of the Palmer Engineering Company, Wellington, another old student, a full-size model of a Nathan injector.

Hydraulics Laboratory.—During the year the Hydraulics Laboratory was completed, and a water-supply brought in by connection with the artesian well at the Boys' High School. The main measuring-tank was constructed, and a high-lift turbine pump with 40-horse-power motor erected. These works form the first instalment of the full-sized equipment for the practical investigation of hydraulic problems which will be completed by the addition of overhead tanks and weirs, high- and low-pressure pipe ranges, a 10-horse-power Pelton wheel, a 15-horse-power Thompson's turbine, a 15-horse-power low-fall turbine, an accumulator, a venturimeter, an experimental tank, and numerous measuring-appliances.

Two overhead travellers were designed. These have been constructed and put in place in the laboratory by a local firm.

On the side reserved for internal-combustion motors a 12-horse-power National, and a 10-horse-power Trusty engine have been erected. The former has been connected to a Dowson suction producer plant, and air and gas meters and other appliances have been installed, and so arranged that everything going into and coming out of either of these engines can be accurately measured.

Apparatus.—The whole of the plant of the school has been carefully upkept, and is in excellent order. The following new apparatus has been procured: A set of models, purchased from the exhibit of Mr. G. Cussons, in the New Zealand International Exhibition, including wrought-iron tank, corner-riveted; gusset stay, riveted; detail of N girder, riveted; stay for crown of locomotive firebox; Corliss valve and valve-seating; sectional model of steam-engine with valves and valve-diagram apparatus; slide-valve with spindle; sectional model of Meyer gear; section of cylinder; Willans engine (working model); eccentric in section; box coupling; hydraulic-pipe joint; mansard roof. Oxygen cylinder and fittings; Nathan injector; two platform scales; gas-engine indicator-gear; air-reservoir; two overhead travellers (built to College designs); laboratory table and cupboards; flasks and glassware, thermometers. A model of a screw-propeller, arranged to show the phenomenon of cavitation, and a model to illustrate the gyroscopic control of rolling motion, were designed and obtained locally. An experimental gas-meter and experimental air-meter; a 2-horse-power electric motor and resistances; 1 wattmeter; 5 ammeters, 4 voltmeters; a commutator model; wooden armature model; x-ray apparatus; switch-frame; lenses; fuse-blocks; resistances; Carden voltmeter and galvanometer for alternating-current work; 30 diagrams; 180 lantern-slides; and a complete set of apparatus for the teaching of technical chemistry.

Changes, &c., of Staff.—Mr. S. Steele, an old student of the school, who occupied the position of demonstrator, having resigned to take up the appointment of Lecturer in Engineering at the Wanganui Technical School, Mr. R. J. McKay, another past student, was appointed in his place. Mr. P. H. Powell, M.Sc., M.Eng., having completed the term of his engagement as Lecturer and Demonstrator in Electrical Engineering, was reappointed as lecturer in that subject. Mr. G. P. Williams, M.Inst.C.E., and Mr. A. D. Dobson, each for the first time, gave a course of lectures in branches of civil engineering.

MUSEUM.

(Curator, Mr. Edgar R. Waite.)

I have the honour to forward to you my report for the year 1907, and, in doing so, beg to draw your attention to the fact that no addition has been made to the building for the past thirty years. The collections have grown to such an extent that the exhibits are in many cases in exceedingly crowded condition, and, below, I beg to suggest a partial remedy. An entirely new Museum is being built at Wellington, and a new wing added to the Otago University Museum at Dunedin, and one feels tempted to ask, "Is the Canterbury Museum to fall from the high position it has occupied among colonial museums?"

I would also point out that, whereas the collections of the Museum have increased as indicated, the staff remains numerically the same. The employment of a youth to act as personal assistant would relieve much of my time, at present devoted to purely elementary routine work.

Structural.—A strong-room, now in course of construction, was rendered necessary on the acquisition of the valuable medals, &c., mentioned below. It will shortly also be possible to accommodate other treasures, previously but ill protected.

Galleries.—The overhauling of the Ethnological Room was completed, and some new cases added, which, however, scarcely relieved the very congested condition of this valuable collection. An addition to this room is urgently needed, and not only can nothing further be exhibited, but only a small proportion of the objects shown can be said to be properly displayed. Nothing can at present be done in the way of descriptive labels, a matter which I consider as most desirable. I would therefore urge that a gallery be built round this room, for which, I understand, foundations already exist. Other rooms are also congested, and an extension of the building itself is really needed, but the requirements of the Ethnological Room are the most pressing. The New Zealand Room has also received considerable attention; the birds are being mounted on a more modern form of stand, and new labels supplied. The gallery of this room will need some rearrangement in the near future, it being intended to improve the display of New Zealand fishes, a work already well in hand. Miss Stoddart's drawings of New Zealand plants were suitably framed and hung upon the walls of this gallery, where they form a most instructive exhibit. The skeletons of extinct birds from the Chatham Islands, formerly ill displayed, were provided with a new case. Some rearrangement was made in the Antiquity Room consequent on the removal thereto of exhibits from the Ethnological Room, and more properly classed as antiquities. The collection of foreign insects