

eighty-five volumes were found missing; some of these have since been returned. The average number of subscribers for the year was 1,878. The following figures show the income from subscriptions during the last few years: 1897, £825 1s.; 1898, £857 15s.; 1899, £889 10s. 6d.; 1900, £926 4s. 6d. Fourteen volumes have been presented to the department.

Reading-room.—With the building powers obtained from Parliament during the session of 1900, frequenters of the public reading-room may hope ere long to obtain better accommodation and increased facilities for perusal of the newspapers of the day. The following newspapers and magazines are placed on the tables: New Zealand papers, 82; English papers and magazines, 21; Australian papers, 9; American papers, 3.

SCHOOL OF ENGINEERING, ELECTRICITY, AND TECHNICAL SCIENCE.

Report of the Professor in charge:—

During the year the field of work has been greatly increased, and now includes the subjects of electricity and electrical engineering. The Board having determined to separate the subjects of physics and chemistry, previously included under one chair, did me the honour to adopt my suggestion that a further division should be made, the subject of electricity being divided from heat, sound, and light, and its teaching intrusted to the engineering department, a special assistant being given me for this portion of the work. This decision resulted in Mr. A. R. Craddock, B.Sc., B.Sc. in Engineering (a former student), being offered, and accepting, the position of lecturer in electricity and electrical engineering in the School of Engineering; and in my drawing up specifications for electrical laboratories and apparatus. These specifications being approved by the Board, those relating to apparatus were sent to the leading electrical engineering firms of England and America; and, as an outcome, in November last I visited Sydney and signed a contract for the supply of the following plant: (1) A complete experimental lighting plant, consisting of 10 horse power generator, battery of thirty storage cells, and a three-panel Italian marble switch-board, with all necessary switches and instruments; (2) an experimental continuous-current power-transmission plant, consisting of 7 horse power experimental dynamo, $2\frac{1}{2}$ horse power series-wound motor, $2\frac{1}{2}$ horse power shunt-wound motor, and starting and regulating resistances and switches; (3) an experimental alternating-current power-transmission plant, consisting of $7\frac{1}{2}$ horse power experimental one-, two-, or three-phase generator, 3 horse power two-phase motor, 3 horse power three-phase motor, and three transformers, one-, two-, and three-phase, transforming up to 1,000, 2,000, or 4,200 volts; (4) a $2\frac{1}{2}$ horse power rotary converter; (5) a C volt- and ammeter, ten switches with fuses, three automatic circuit-breakers, and 400 yards of rubber-insulated cable; (6) a Silvertown testing set; (7) a Siemens's dynamometer; (8) two Siemens's resistance boxes; (9) a resistance frame; (10) Weston test volt- and ammeters; (11) a $13\frac{1}{2}$ horse power gas-engine.

Buildings.—The erection of the buildings has been deferred, pending the decision of the Government on the question of subsidy, in connection with which the department was visited on the 3rd November by the Right Hon. the Premier, the Hon. the Minister of Education, and the Hon. the Minister for Railways.

Associateship Course.—A new departure was made during the year by initiating a course for the associateship of the School of Engineering, extending over three years, and of less difficulty than the four years university course for the degree of B.Sc. in Engineering. Eight students took advantage of this course, which promises to become an extremely popular one, fulfilling as it does the important purpose of turning out men well qualified for employment as draftsmen, managers, or assistant engineers; in fact, for holding those positions which the young engineer must, at starting, expect to occupy.

Attendance.—127 students attended lectures during the year; the number of hour-attendances per week being 608, as against 485 of the previous year, showing the very substantial increase of 25 per cent. The available accommodation has been taxed to the utmost, and the proposed new buildings are urgently required.

Engineering Laboratory.—Tests were carried out during the year on axles and cement for the New Zealand Government railways; oil for the Union Steamship Company; cast steel and concrete pipes for local firms; Oamaru stone and shingle.

Apparatus and Plant.—During the year the following additions have been made: A micrometer caliper measuring up to 12 in. in length, by thousandths of an inch; a micrometer caliper measuring up to $\frac{1}{2}$ in. by ten-thousandths of an inch; six absolute standards of length, 3 in., 4 in., 5 in., 6 in., 7 in., and 8 in. in length; one 3 ft. straight-edge; Fuller's spiral slide rule; experimental screw-jack; nine spring balances; a set of weights; a 10-cwt. Weston's block and tackle for applied mechanics experiments; a kinematic chain and torsion models; a Knowles's steam pump for hydraulic experiments; a cement mixer; Orsat's apparatus for analysis of flue gases; sixteen drawing boards; four desks and benches; and a set of metallurgical diagrams.

By exchange with the School of Mines, Dunedin, three bridge models were obtained for various small models illustrative of mining.

The whole of the plant, with the exception of the boiler, now undergoing heavy repairs, is in excellent order.

Examinations.—At the annual examinations three students qualified for the first year of the course for the certificate of Associate in Mechanical Engineering, and five for the first and second years.

Of the students attending evening classes, four obtained first-class and ten second-class certificates in steam-engine (elementary); one obtained first-class and five second-class certificates in practical mechanics; three obtained first-class and three second-class certificates in elementary strength of materials; five obtained first-class and two second-class certificates in mechanical drawing (Section I.); one obtained first-class and four second-class certificates in mechanical drawing (Section II.); two obtained first-class and one second-class certificates in mechanical drawing (Section III.); eleven obtained first-class and six second-class certificates in freehand