

familiarize a student with the tools used in wood and metal working, to give him a practical knowledge of the nature of the materials with which he has to deal, and to teach him the most approved methods of constructing machinery.

The technical building is a structure of five stories, covering an area of about 9,600 square feet. Upon the ground floor are to be the following laboratories: (a) A *steam* laboratory, 60 x 32 feet, containing a triple compound experimental engine, with dynamometers, calorimeters, injectors, graduated tanks and all appliances necessary for the thorough investigation of the properties of steam; (b) a laboratory for testing the strength of materials, 60 x 32 feet, containing a 75 ton Emery Testing machine, presented by Mr. J. H. Burland, B.A.Sc., a graduate of the Faculty; also machines for testing the effect of torsion, repeated bending, etc.; (c) an hydraulic laboratory, in which experiments will be made on the flow of water through pipes and mouth pieces of various forms and sizes, also upon pipe friction, etc.; (d) a laboratory for tests upon cements; (e) an electrical laboratory, in which will be installed the dynamos. Here experiments will be conducted on dynamic electricity, and will form a special feature of the course in Electrical Engineering. Ample room will also be provided for storage batteries; (f) a laboratory of uniform temperature, containing a comparator, dividing engine and standard gauges. Additional laboratories of similar character are also provided on the first floor.

The second floor is to be occupied by lecture rooms, library, students' room, offices, etc. The third floor forms the Museum, in which will be placed valuable collections, illustrating mechanical principles. Through the further munificence of Mr. McDonald we already know that this museum will contain the most complete and valuable collection of models of mechanical movements on this continent. These are world-famed, as the Reuleaux Kinematic collection, and their value to the student, and also to the engineer, can hardly be over-estimated. In time we may hope to possess, through the kindness of other benefactors, models illustrating engineering structures, and also sectional models showing the construction of machinery.

The whole of the fourth floor is to be devoted to drawing. All the engineering students, civil, mining, mechanical and electrical, will be required to do work in the laboratories, in certain departments, under the supervision of the professors. The object is to enable the students to study experimentally the sources of energy, prime movers, and the strength of materials, and to carry on, with intelligence, original investigations.