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HYDRAULIC LABORATORY, McGILL UNIVERSITY. BY HENRY T. BOVEY, M.INST.C.E., LL.D., etc., and J. T. FARMER, MA.E.

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(To be read Thursday, May 5, 1898.)

General Description .- The laboratory is 39 feet in length and 31 feet in width. On the north side, near the centre, stands the Experimental Tank, having its base on a level with the bottom of a flume.

The flume, which is 5 feet wide and 3 feet 6 inches deep, runs from the tank and terminates in an adjustable weir. The water flowing through the flume may pass over or under the weir and may run to waste or may be made to pass into five large carefully calibrated tanks, 8 inches below the floor level and ranged in series on the south side of the Laboratory. The eovering of the tanks is on the level and, indeed, forms part of the floor.

Over the easternmost of the tanks stands the Experimental Pump on a base formed of suitably designed earrying girders or trunks.

On the west side, at convenient points along the flume, are the following pieces of apparatus --- A 16 inch Pelton Wheel, with brake attachments, a Turbine Tester of special design and an Experimentai Centrifugal Pump. Along the west wall is fitted up a Rife Hydraulic Ram with all the necessary pipes and tanks for experimental work. The pumps are driven from a line of 34 inch steel shafting near and running parallel with the east side of the Laboratory. The shafting is operated by a 100 H. P. Mackintosh & Seymour high-speed horizontal engine, standing in an adjoining room. By means of an electromagnetic coupling, designed by Prof. Carus-Wilson, and connected with a switch conveniently placed near the Experimental Pump, the