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### TESTS ON REINFORCED CONCRETE BEAMS.

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(To be read before the General Section, October 15, 1908.)

This paper embodies the results of tests made in the Testing Laboratories, McGill University, during the session of 1906-07, under the author's direction. Some of the tests described formed the laboratory work of the graduating class in Civil Engineering, while the remainder was carried out independently. The work was arranged so as to include different methods of reinforcement, and it is intended to carry on further investigations, the results herein described having particular reference to reinforcement by Kahn and Johnson bars. Some reference is also made to the Ransome bars, but the tests on beams reinforced with this bar were limited in number owing to lack of time, and to the interruption of work resulting from the fire in the Engineering Building, early in April, 1907.

Two sets of beams were used, the moulds being 6" x 8" x 6' 4½" long, and 8" x 12" x 10' 6" long, respectively. These moulds were utilized to give beams to be tested on 6' 0" and 10' 0" centres, and different depths could be obtained by finishing the concrete below the level of the top of the mould. The moulds were built of heavy board, thoroughly boiled in oil. The sides were stiffened at intervals by vertical iron tubes running through the wood. The moulds were built in halves, lined with galvanized sheet iron, and hinged along the base so as to be easily parted. For removal of beams loose ends were provided, and the halves of the moulds were held together across the top by iron clamps, the ends of which were forced into the open tubes used as side stiffeners. These moulds