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TRANSACTIONS.

DESIGN AND CONSTRUCTION OF THE AVON BRIDGE.

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The problem of renewing the old toll bridge at Windsor, known as the Avon Bridge, has for years been looked upon as a perplexing and costly undertaking, and it was not until the early part of 1886 that actual steps were taken by the Government of Nova Scotia to take over the old bridge, open it free to the public, and make provision for its renewal, when in the interests of the public safety this should become necessary.

The old bridge was built in the year 1836, and consisted of five spans, varying in length from 147 to 162 feet in clear, supported by piers and abutments of close faced cribwork with cribwork approaches. The height of piers was from 45 to 50 feet. Ordinary tides rise 27 feet, spring tides 34 feet. The trusses were Towns wooden lattice, double, with double chords top and bottom. The whole of the trusses were built of 3" planking, and housed in. They had been supplemented by wooden arches springing from about 6 feet below the floor; an additional pier had also been built under the centre of one of the spans. The structure had settled and warped considerably, in some places as much as four feet, and all indications pointed to the fact that it would soon become necessary to take steps for its renewal.

The structure had been purchased by the Provincial Government from the stock Company who had hitherto owned it, and it was at once declared free of toll to the public for ordinary traffic. Some repairs were put upon it, extra vigilance being exercised to prevent heavy and continuous traffic, and with those precautions the public were allowed the use of it, until such a time as the progress of the new work would render it necessary to close it altogether.

The question of renewing the bridge having been decided on, it was next to be determined what style of structure should be erected.

Besides the plan selected, two designs were submitted. One was for four spans of iron 200 feet each between end pins, supported by piers and abutments of close faced cribwork filled with concrete; roadway 18 feet in clear with two footways 5 feet each; estimated cost $56,000. The second design was for four spans of Howe Truss of wood 160 feet each, and two smaller spans of wood 120 feet and 50 feet respectively, piers to be of close faced cribwork filled with stone, estimated cost $36,000.

The first would have made a strong and handsome structure, but the cost was considered excessive. The plan for a structure altogether of wood was strongly advocated by adherents of the old system, who argued