come upon the whole of the 734 feet aggregating these spans averages only 3,370 pounds per lineal foot.

It is but just to mention, in this connection, that two meritorious designs for double track railway and roadway bridges, on the derrick plan, were originally submitted to your Company by Professor W. P. Trowbridge of New Haven. We regret that his many engagements did not admit of his revising them to conform to our specifications, especially as Professor Trowbridge was one of the earliest to interest himself in the project for a bridge at Blackwell’s Island and to propose a derrick plan therefor. We have received from him a communication and estimate concerning the cost of a tunnel at the location proposed for your bridge, which we submit to your Board here-with.

But few of the seven plans which have thus far been discussed are accompanied with direct tenders from bridge firms for their construction. Some of the estimates of cost, therefore, may require revision as to prices, as well as to quantities of materials needed to supply deficiencies.

The two plans which remain to be described, however, are not only the best in themselves, as we are all agreed, but are backed by responsible bridge contractors of high standing, who, as we understand, are prepared to enter into contracts for their construction at the specified sums.

Either of the designs is a proper one to be adopted and erected; and, with such modifications and improvements as the builders would doubtless wish themselves to make in preparing their final plans, is likely to give good satisfaction.

VIII. The firm of Clarke, Reeves & Co., of the Phoenixville Bridge Works, submit a design in which they propose to erect for the spans across the river the plan of hinged arch invented and patented by Capt. James B. Eads, the distinguished engineer of the St. Louis Bridge.

A side view is shown on plate VIII.

The arch proper consists of two Lenticular struts or girders resting against each other in the centre, where they are hinged, and also hinged at the top of the piers. To sustain these hinge points, struts, made like the girders, continue the arch form to abutments on the rock foundation below.