

cost \$44,413. To rebuild the structure with one span of 160 feet, one 80 feet, one 70 feet and one 60 feet, the cost was estimated at \$55,807. When excavating for the foundation of the west abutment in mica schist, similar to that at Stony Creek, an extensive slide took place, which necessitated greatly increasing the quantity of masonry and lengthening the gap to be covered, so that the bridge, as built 34 feet south of the old structure, is made up of one 270 feet hinged arch and four 50 feet plate girders, the cost of which was \$57,966. The arch was erected as a cantilever; as shown on Plan No. II.

In giving this very general idea of the character of the work done, and in showing to some slight extent the economy that has followed the use of temporary work in the original construction, I have trespassed longer upon your patience than I intended. Much that would be very instructive has had to be passed over entirely, and none of the work has been more than touched upon.

In conclusion, I would like to impress upon our younger members the necessity that exists in this new Country for the practice of economy in all the works they happen to be engaged upon.

We have a great work to do in building up a Country which stretches from the Atlantic to the Pacific, filled as it is with great natural resources of all kinds awaiting development, and but little money to do it with; and if we can so carry out our works that they are good and substantial, and at the same time cheaply constructed, so that the Capitalists who furnish the money can get a fair return for its use, we may expect more money from them, and other works will be carried out that will give employment to Engineers and prosperity to our Country. It is quite an easy matter to build an expensive structure, but it is an Engineer's duty to build an effective structure for the least possible cost, and after his design is made perfect as to its stability, he should proceed to remove from it everything that is not absolutely necessary and that has no duty to perform, remembering that he must never build ornaments, but that good and wise construction will be ornamental in itself.

Finally, you must also remember that your success in life depends on your capacity and willingness to take infinite pains with everything you are called upon to carry out. You must be in downright earnest about your work, and, above all things, you must be absolutely and entirely honest in every respect, never letting your convictions or opinions be warped in any way for any consideration, and then, if you may not always command success, you will at least deserve it, which is often better.