

But the proposed cables consist of no less than 24,000 strands, or more than three times the number really necessary to support the tension to which they will be subjected.

In other words, it is assumed that the bridge is loaded from end to end with 20 tons locomotive engines, and 10 tons tenders; and *the cables are then made strong enough to bear more than three times their own weight, three times the weight of the bridge, and three times the weight of twenty first class locomotive engines and twenty tenders.*

Again, let it be observed that these are the facts which control the estimate of the cost of this bridge: That estimate is made for a work intended to bear safely and permanently, freight trains of 600 tons; while it is very obvious that the road is destined almost exclusively for passengers and valuable merchandise.

An engine of twenty tons, with its tender and eight or ten passenger cars, or a gross load of 100 tons, will probably be regarded on this line, for a long time to come, as an extraordinary train; and indeed all that a sound view of judicious economy could well prescribe as the ground-work of the plans intended for its accommodation.

But it is the wish of the Committee to present a plan for a bridge of ample power for any rail-way duty in this country. This plan has been controlled by that wish. It will remain for the rail-way company, in carrying out the details, to reduce the work and the