work, he would have found in me an active supporter. The trusses are without effective upper and lower chords; it being originally supposed that the upper and lower floors would act in the sense of chords. This has been found to be a mistake; and the usefulness of the diagonals and posts (which would otherwise answer) is impaired by the defect. I have repeatedly called the attention of the Directors to this matter, and the fact of their paying no attention to my recommendations shows an almost unpardonable indifference on their part.

Passing on in Mr. Wasell's pamphlet, from the table of quantities given, we come to certain assumptions on which his criticism is predicated. These are:—

First Assumption.—That "each cable bears its due proportion of load." By which I suppose him to mean, that if two cables (under like conditions) bear a certain load, one cable will bear one-half of that load. This is an axiom. The result given under such assumption would be correct, if the *load* assumed had been correct. When the proper load is taken, the factor of safety will be over 5, instead of $3\frac{8}{10}$ as he gives it. For the test load of 326 tons, the factor was $4\frac{4}{10}$ for the upper cables, and 5 for the lower.

Second Assumption.—That "each pair of cables, whether upper or lower, carry their own particular load." That is to say, that the *upper* cables *alone* carry the railroad trains and receive the strain due to their entire weight; leaving the lower cables to carry only the light loads that ordinarily come on the lower floor. This would be perfectly true if the two floors