to be detected by any but a practised eye, carefully placed to observe it. It is much less important than the oscillations and heavings of the cars in passing from one sill to another on any line of rail-road in this country.

The apprehension, therefore, that the bending of the bridge will present an impediment to the progress of the engine and train is entirely groundless. There is no sudden angle formed in the flooring, but the slight depression that really has place is diffused, in all cases, over at least half the length of the span. [See Note B.]

It has been already stated that the Freibourg bridge, a very slight structure, was repeatedly bent three feet by concentrating heavy weights on the platform. But on comparing the proportions of the Freibourg bridge with those of the work before us, it will be observed that the weight which would depress the former three feet, and which the calculation shows to be more than thirty tons, would produce a depression in the latter of only six inches.

It must surely be clear, then, that if a depression of more than 36 inches produced no injury in the weaker bridge, a depression of six, or any less number of inches, could not be hurtful to the stronger work.

The Freibourg bridge was bent more than three feet without injury, and this one might also be bent an equal or a greater amount, without the slightest cause for apprehension. But to bend the flooring of this bridge three feet—assuming still that the timber framing would present no resistance—would require