From this we get:—

Length of upper cables each 215.13+830.76+215.13=1261 feet.
" " lower " " 179.24+834.52+179.24=1193 "

Here we strike at once, one of the chief sources of Mr. Wasell's blundering; since he takes the lengths of all alike at "about 1,460 feet."

Suppose now the temperature to fall to 20° below zero, the changes in length will then be:—

	Land curve shortened.	River curve shortened.
In Upper Cable	0.111 feet	0.427 feet.
In Lower "	0.092 "	0.429 "

This, as previously shown, will cause each saddle of the upper cables to move towards the land $\frac{111}{1000}$ feet, and each saddle of the lower cables to move likewise $\frac{92}{1000}$ feet, thus increasing the spans to $821\frac{555}{1000}$ feet and $821\frac{517}{1000}$ feet respectively. The lengths of curves of the river spans will be shortened to $830\frac{313}{1000}$ feet and $834\frac{91}{1000}$ feet respectively. The final effect of these changes will be to diminish the deflection of the upper cables to $52\frac{8}{100}$ feet, and of the lower cables to $62\frac{47}{100}$ feet, making the distance between them $10\frac{39}{100}$ feet, or 4¾ inches more than it was when first adjusted.

Suppose, on the contrary, the change to have been to + 130° Fah., we then have the cables elongated by the same amount that they were in the other case shortened; and the final effect will be a deflection of $55\frac{81}{100}$ feet in the upper cables and $65\frac{46}{100}$ feet in the lower cables, or the distance between them $9\frac{65}{100}$ feet. This makes the total difference in distances, between the cables $\frac{74}{100}$ feet = 8⅞ inches, for these extreme