

Jan 5

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My dear M. Cabot.

Upon reading again your letter of 31 I note that I have omitted to answer your enquiry as to the strength required in the wires which truss our superimposed surfaces. These are proportioned just as upon a bridge truss,

[Abb. 1]

with this difference, however, that the weight is considered as applied at the centre, while the support (air pressure) is uniformly distributed.

Having decided upon the weight to be supported, we calculate the amount coming on each part at the panel point, and its diagonal resultant along the wire. This gives us diameters varying from two to five hundredths of an inch, with a factor of safety of five, and we take the nearest commercial size to that. We use steel wire with a tensile strength of 100.000 to 150.000 lbs per square inch. I regret now that I destroyed our strain sheet calculations, as I would send it to you as an example.

Yours Truly

O. Chanute