net ton of strain per square inch of section:

2. Effect of Stays.—The usual method of calculating the strength of stays consists in attributing a certain equally distributed load to them, and in computing each single one according to the proportionate part of the load, and the angle which its direction forms with the stay. This of course gives only an approximate assurance that the stays really support all the weight allotted to them, and in consequence of this uncertainty some engineers have condemned altogether their application. They, however, neglect the consideration that the principal object of stays is not their supporting power, but the stiffness which they give to the floor. Except by such means, this same stiffness can only be attained by high and heavy trusses, which, though very effective, are considerably more expensive, besides adding greater weight and cost to the cables. For large bridges, therefore, stays are a matter of economy.