single form of strain. Respect, also, should be had to the frequency with which any part is subjected to strain from a moving load, as this will influence its power of endurance. The rule in structures having so important an office to perform as railroad or highway bridges, should be, in all cases, absolute safety under all conditions.

The British Board of Trade fixes the greatest strain that shall come upon the material in a wrought-iron bridge, from the combined weight of the bridge and load, at 5 tons per square inch of the net section of the metal. The French practice allows $3\frac{8}{10}$ tons per square inch of the gross section of the metal, which, considering the amount taken out by rivet-holes, is substantially the same as the English allowance. The report of the American Society of Civil