tions, may be computed by the following simple process:—

Multiply the sagitta, or deflection of the curve of the cables in feet, by the weight in tons placed in the centre of the flooring, and divide the product by twice the weight of the bridge, in tons.

The result obtained by this process, will express the deflection in feet, under the supposition that the timber possesses no stiffness, and adds nothing at all to the strength or rigidity of the platform.

For an application of this rule, we may assume that a locomotive engine, of 20 tons weight, is placed in the centre of the flooring of the Connecticut river bridge.

The calculated deflection would then be

$$\frac{60 \times 20}{2 \times 2000} = \tfrac{12}{40} \text{ of a foot,}$$

or the flooring would be depressed three inches and six-tenths.

But the bridge is planned with a view to preserve a camber or arch in the flooring, of two feet, at midsummer, when unloaded; and it would therefore require about seven such engines to bring the centre down to the horizontal line.

It is unnecessary to attempt to prove, that a depression of four or five inches in the flooring of a flexible bridge, one thousand feet long, would produce no injurious effect—for that fact is demonstrated practically by every suspension bridge in existence. The Fair-