

of links in the whole chain from A to B. The quotient will be the distance, $D D'$, expressed in links.

The length of a link is the distance from the centre of one link to the centre of the next one to it.

This rule may be applied to all cases within the limits assigned, and approximatively to many cases beyond those limits; and it will always exhibit results which coincide very closely with experiment, if the experiment be accurately made.

It matters not what the size of the chain may be; from the finest watch chain up to the heaviest cable, or cable bridge, this rule will hold good, and be accurate enough for almost all practical purposes, until the bridge is stiffened by timber or other trussing, when the actual movements will become less than those exhibited by the calculation. Indeed, in nearly every case, within the limits specified, the errors which exist in the computation are on the safe side—since the calculated depression is generally a fraction greater than that which really occurs.

Now, let it be observed, that according to this rule, the depression produced by a given weight will be less and less as the weight of the chain becomes greater and greater.

Consequently, *if we double the span*, or put two chains in place of one, or double the weight of the links in the same chain, leaving all other things the same, the depression will be reduced one-half. In other words, the stability of a suspension bridge of great span depends mainly on its weight.