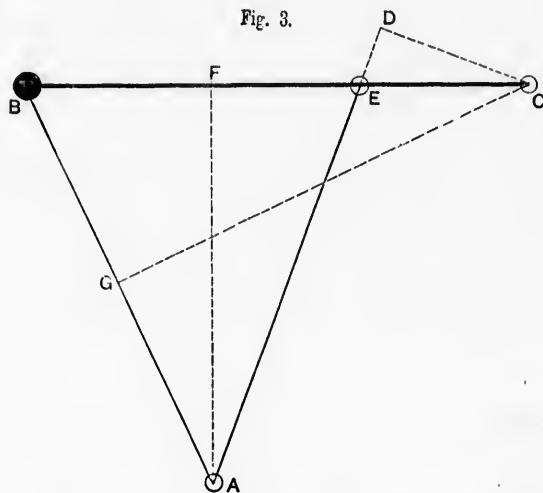


2. Centrifugal moment of a governor weight.

Theorem: The centrifugal moment about the weight pivot, like the simple weight moment, is the same wherever on the line through the centre of gravity of the weight to the centre of the pivot the weight be considered as concentrated.

Let *A*, Fig. 3, be the centre of the shaft, *B* the centre of gravity of the weight, and *C* the pivot centre or fulcrum.

In considering simple weight leverage about *C*, the effective weight may be assumed to act at any point on the line *BC*, as at



E, in which case the weight at *E* is to the actual weight at *B* as *BC* to *EC*. The centrifugal moment of weight *B* for any given number of revolutions is proportional to the radius *BA* times the line *GC*, drawn at right angles to *BA* through *C*. The centrifugal force of the resultant weight *E* is similarly *AE* times *DC*; *DC* being drawn at right angles to *AE* prolonged.

According to the theorem,

$$AB \times GC \times CE = AE \times DC \times BC,$$

the lines *CE* and *BC* being the relative weights in the two cases.

Proof: Draw the line *FA* at right angles to *BC*. Then we have the similar triangles *AFB* and *CGB*; also *AFE* and *CDE*,