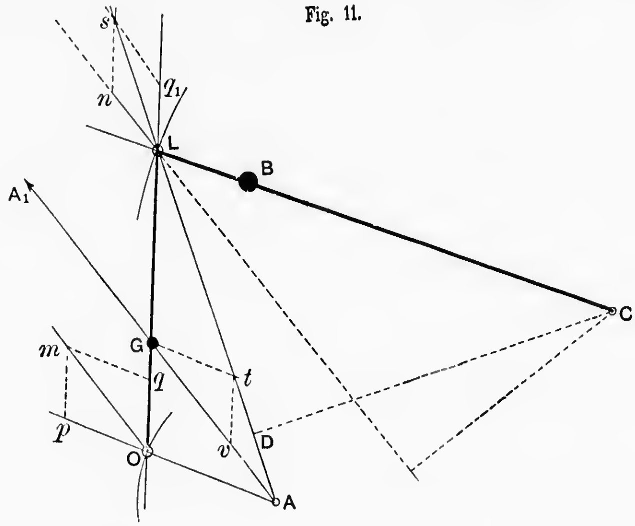
at the other end in a circular path about the centre of the weight pivot, then is the centrifugal effect of the link the same as if that portion of the weight of the link were concentrated at its weight-arm pivot, which would rest on its support if the link were placed in a horizontal position on two end supports.

In Fig. 11 let A be the shaft centre, C the weight-arm pivot, $L\,O$ the link, and G the centre of gravity of the link. $G\,A = G\,A_1$ may be taken to represent the centrifugal force of the link. Clearly, this force may be resolved into two forces, $O\,m$ and $L\,n$, the sum of which is equal to $G\,A$, while their ratio is as $G\,L$ to $G\,O$, and their direction of action parallel to $G\,A$.

Fig. 11.



Resolve $O\,m$ into the components $O\,p$ and $O\,q$, $O\,p$ having a radial direction from A, and $O\,q$ lying in the line of the link. Lay off $O\,q$ from L to q_1, in the direction of the link, and combine $L\,q_1$ with $L\,n$ by the parallelogram of forces, which gives the force $L\,s$ as the total resultant force of the link tending to rotate the weight-arm about its pivot.

Draw $L\,A$, also $G\,t$ parallel to $O\,A$, and $t\,v$ parallel to $O\,L$. By geometry $G\,A$ is divided at v, and $L\,A$ at t, in the same ratio as $L\,O$ at G; therefore, since $O\,m$ was made equal to $G\,v$ in amount and direction, the triangles $m\,O\,q$ and $G\,v\,t$ are equal. $L\,n$ was made parallel to and equal to $v\,A$, and $n\,s$ is parallel