With a leverage $= \frac{1}{2} h$. The analogy of the truss to a beam supported at the ends is thus preserved.

**Fig. 59.**

If we suppose a single force acting at $A$ to keep the truss in equilibrium, $C$ being a fixed point and $(G)$ the centre of gravity, we may transfer the force at $A$ to the point $p$ of its line of direction, and the two forces $pB$ and $pG$ will have a resultant, which, in the case of equilibrium, will pass through the point $C$, and $pC$ will represent the direction of the force.

We can, however, estimate the moments in a different manner, and one which, although it will give the same result, will express better the true conditions of the problem.

Instead of one force there are two, one at $A$, the other at $D$. The effect of these forces would be to cause rotation around the middle of the line joining their points of application. The locus of the point of rotation must therefore be in the line $o'n$. But the weight of the truss reacts upon the fixed point $C$, and generates a resistance which can be replaced by a force acting upwards. There are, therefore, two vertical as well as two horizontal forces, one acting upwards at $C$, the other downwards through the centre of gravity $G$. As these forces are equal, the locus will be in the line $ss$ which bisects $Gn$, and the intersection of the two loci $ss'$ and $o'n$ will give $o$, the true point of rotation of the four forces. The resultant in the case of equilibrium passes through $o$ and $C$, and evidently coincides with the line $oP$ as first determined.

**Fig. 60.**