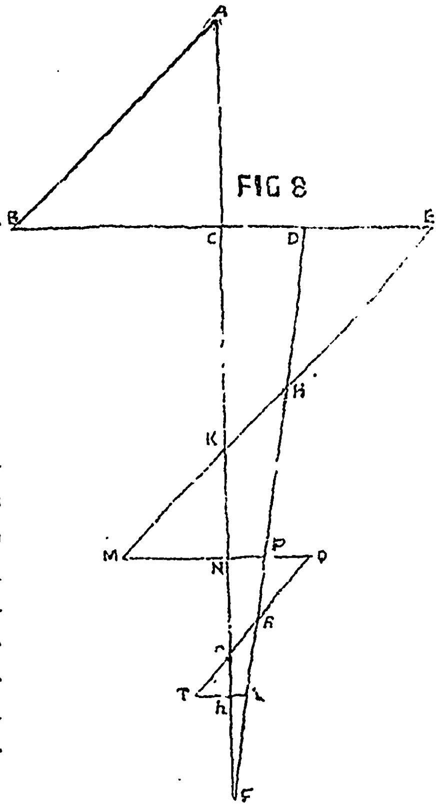
We can go on thus indefinitely, forming a series of pairs of equal triangles KMN and PNF, Trh and FLh, &c., to which there is no limit; and, if S_n be the sum of the angles of the first triangle in the n^{th} pair, and s_n the sum of the angles of the second triangle in the n^{th} pair,

$$S_n - s_n = S - s.$$



But, as the series of triangles, FPN, FLh, &c., is indefinitely increased in number, by a continued repetition of the construction above described, the base (such as hL) of the triangle ultimately obtained becomes indefinitely small. For

$$\begin{aligned} BC &= CD + DE \\ &= CD + NP + MN \\ &= CD + 2NP + hL + Th, \end{aligned}$$

and so on, without limit; so that, if the base (such as hL) of the triangle (such as FLh) ultimately obtained did not become indefinitely small, the finite line BC would be greater than the sum of an indefinite number of lines, none of which was less than a given finite line: which is impossible. Since therefore the base (such as hL) of the triangle (such as FhL) ultimately obtained must become indefinitely small, the sum of the angles of the triangle (such as FLh) ultimately obtained cannot (Prop. III.) differ by any finite angle from two right angles That is, S_n does not continue, as n is indefinitely increased,