CONCLUSION.—Wherefore, if two angles, &c. (*See Enunciation.*) *Which was to be shewn.*

COROLLARY.—*Hence every equi-angular triangle is also equilateral.*

This Proposition and Corollary are the converse of Proposition 5 and its Corollary, part of the Hypothesis of Proposition 5 becoming the sequence of Proposition 6, and *vice versa.* In the former the equality of the sides of the triangle is granted, and the resulting fact of the equality of the angles at the base is required to be demonstrated. In the latter, the equality of the angles at the base is allowed, and demonstration is required of the consequent reality of the equality of the sides of the triangle.

The demonstration of the above Proposition is termed negative or indirect, as the absurd conclusion to which we are led by reasoning on the second or false hypothesis, shews that the first hypothesis, and that only, can be, and must be true.

PROPOSITION 7.—THEOREM.

Upon the same base, and on the same side of it, there cannot be two triangles that have their sides, which are terminated in one extremity of the base, equal to one another, and likewise those which are terminated in the other extremity.

HYPOTHESIS—1. Let the triangles ACB, ADB, upon the same base AB, and on the same side of it, have, if possible,

2. Their sides CA, DA, terminated in the extremity A of the base, equal to one another.

3. And their sides CB, DB, terminated in the extremity B of the base, likewise equal to one another.

We have assumed the possibility of the equality of the sides, in order to demonstrate the impossibility of such a case, by arriving at an absurd conclusion, which will follow from reasoning on a false supposition.

CONSTRUCTION.—Join CD.

CASE I. First let the vertex of each triangle be without the other triangle. (*See Figure* 1.)

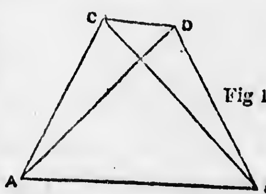

Fig 1.

DEMONSTRATION—1. Because AC is equal to AD. (*Hypothesis* 2.)

2. The triangle ADC is an isosceles triangle, and the angle ACD is therefore equal to the angle ADC. (*Prop.* 5, *Book* I.)