3. But DA, DB, parts of them, are equal. (*Definition* 24.—*Prop.* 1, *Book* I.)

4. Therefore the remainder AL, is equal to the remainder BG. (*Axiom* 3.)

5. But BC has been proved equal to BG. (*Proof* 1.)

6. Wherefore AL and BC are, each of them, equal to BG.

7. But things which are equal to the same thing are equal to one another, therefore the straight line AL is equal to the straight line BC. (*Axiom* 1.)

CONCLUSION.—Wherefore, from the given point A, a straight line AL has been drawn, equal to the given straight line BC. *Which was to be done.*

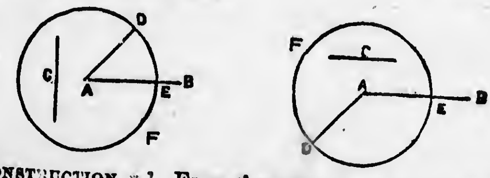
In constructing a figure for this Proposition with any relative positions of the given point and given straight line, it will be observed that the apex of the equilateral triangle, the point in which the given straight line and the base of the equilateral triangle meet, and the point of contact of the circles, will always be in the same straight line.

PROPOSITION 3.—PROBLEM.

From the greater of two given straight lines to cut off a part equal to the less.

GIVEN.—Let AB and C be the two given straight lines, of which AB is the greater.

SOUGHT.—It is required to cut off from AB, the greater, a part equal to C, the less.



CONSTRUCTION.—1. From the point A, draw the straight line AD equal to C. (*Prop.* 2, *Book* I.)

2. From the centre A, at the distance AD, describe the circle DEF. (*Postulate* 3.)

AE, a part of AB, shall be equal to C.

PROOF.—1. Because the point A is the centre of the circle DEF, AE is equal to AD. (*Definition* 15.)

2. But the straight line C is also equal to AD. (*By Construction* 1.)

3. Whence AE and C are each of them equal to AD.

4. Wherefore the straight line AE is equal to C. (*Axiom* 1.)