5. Therefore their other sides are equal, each to each; viz., the side AB to the side CD, and the side AC to the side BD. (*Prop.* 26, *Book* I.)

6. And the third angle of the one is equal to the third angle of the other; viz., the angle BAC, equal to the angle BDC. (*Prop.* 26, *Book* I.)

7. And because the angle ABC, is equal to the angle BCD, and the angle CBD to the angle ACB.

8. Therefore the whole angle ABD, is equal to the whole angle ACD. (*Axiom* 2.)

9. And the angle BAC has been shewn to be equal to the angle BDC. (*Demonstration* 6.)

Therefore the opposite sides and angles of parallelograms are equal to one another.

10. Also their diameter bisects them; for AB being equal to CD, and BC common, the two, AB, BC, are equal to the two, BC, CD, each to each.

11. And the angle ABC has been proved equal to the angle BCD. (*Demonstration* 1.)

12. Therefore the triangle ABC is equal to the triangle BCD. (*Prop.* 4, *Book* I.)

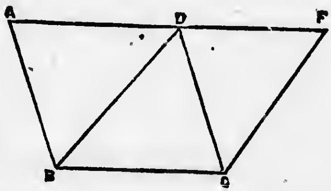
And the diameter BC, therefore, divides the parallelogram ABDC into two equal parts.

Conclusion.—Therefore, the opposite sides, &c. (*See Enunciation.*) *Which was to be done.*

PROPOSITION 35.—THEOREM.

Parallelograms upon the same base, and between the same parallels, are equal to one another.

Hypothesis.—Let the parallelograms ABCD, EBCF, be on the same base BC, and between the same parallels, AF, BC.



Sequence. — The parallelogram ABCD, shall be equal to the parallelogram EBCF.

Case I.—If the sides AD, DF, of the parallelograms ABCD, DBCF, opposite to the base BC, be terminated in the same point D, it is plain that—