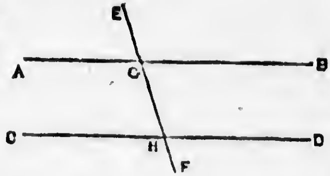


3. Therefore the angle AGH is equal to the angle GHD (*Axiom* 1), and these angles are alternate angles.

4. Therefore AB is parallel to CD. (*Prop.* 27, *Book* I.)

(II.) 1. Again, because the angles BGH, GHD, are equal to two right angles, *Hypothesis* 2.)

2. And that the angles AGH, BGH, are also equal to two right angles, (*Proposition* 13, *Book* I.)

3. Therefore the angles AGH, BGH, are equal to the angles BGH, GHD. (*Axiom* 1.)

4. Take away the common angle, BGH.

5. Therefore the remaining angle, AGH, is equal to the remaining angle GHD (*Axiom* 1.), and these angles are alternate angles.

6. Therefore AB is parallel to CD. (*Prop.* 27, *Book* I.)

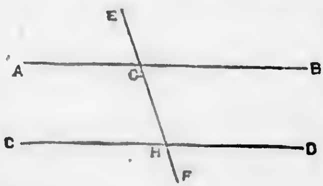
Conclusion.—Wherefore, if a straight line, &c. (*See Enunciation.*) *Which was to be shewn.*

PROPOSITION 29.—THEOREM.

If a straight line fall upon two parallel straight lines, it makes the alternate angles equal to one another, and the exterior angle equal to the interior and opposite upon the same side, and, likewise, the two interior angles upon the same side, together equal to two right angles.

Hypothesis.—Let the straight line EF fall upon the parallel straight lines AB, CD.

Sequence.—1. The alternate angles, AGH, GHD, shall be equal to one another.



2. The exterior angle, EGB, shall be equal to GHD, the interior and opposite angle upon the same side.

3. And the two interior angles, BGH, GHD, upon the same side, shall be together equal to two right angles.

Hypothesis.—(II.) For if AGH be not equal to GHD, one of them must be greater than the other; let AGH be the greater.