

CHAPTER II.

MEDIAL SECTION.

9. **Definition:**—When a line segment is divided into two parts such that the square on one part is equal to the rectangle contained by the given line segment and the other part, it is said to be divided in **medial section**.

10. **Problem:**—To divide a given line-segment in medial section.

Let AB be the given line-segment.

Draw $AC \perp AB$ and $= AB$. Bisect AC at D . With centre D and radius DB describe an arc cutting CA produced at E . With centre A and radius AE describe an arc cutting AB at F .

Then AB is divided in medial section at F .

$$\begin{aligned} DA^2 + 2 DA \cdot AE + AE^2 &= DE^2, & (II, \S 86.) \\ &= DB^2, \\ &= DA^2 + AB^2. \end{aligned}$$

$$\begin{aligned} \therefore AF^2 &= AB^2 - AB \cdot AE, & (2DA = AB.) \\ &= AB (AB - AF), \\ &= AB \cdot FB, \end{aligned}$$

