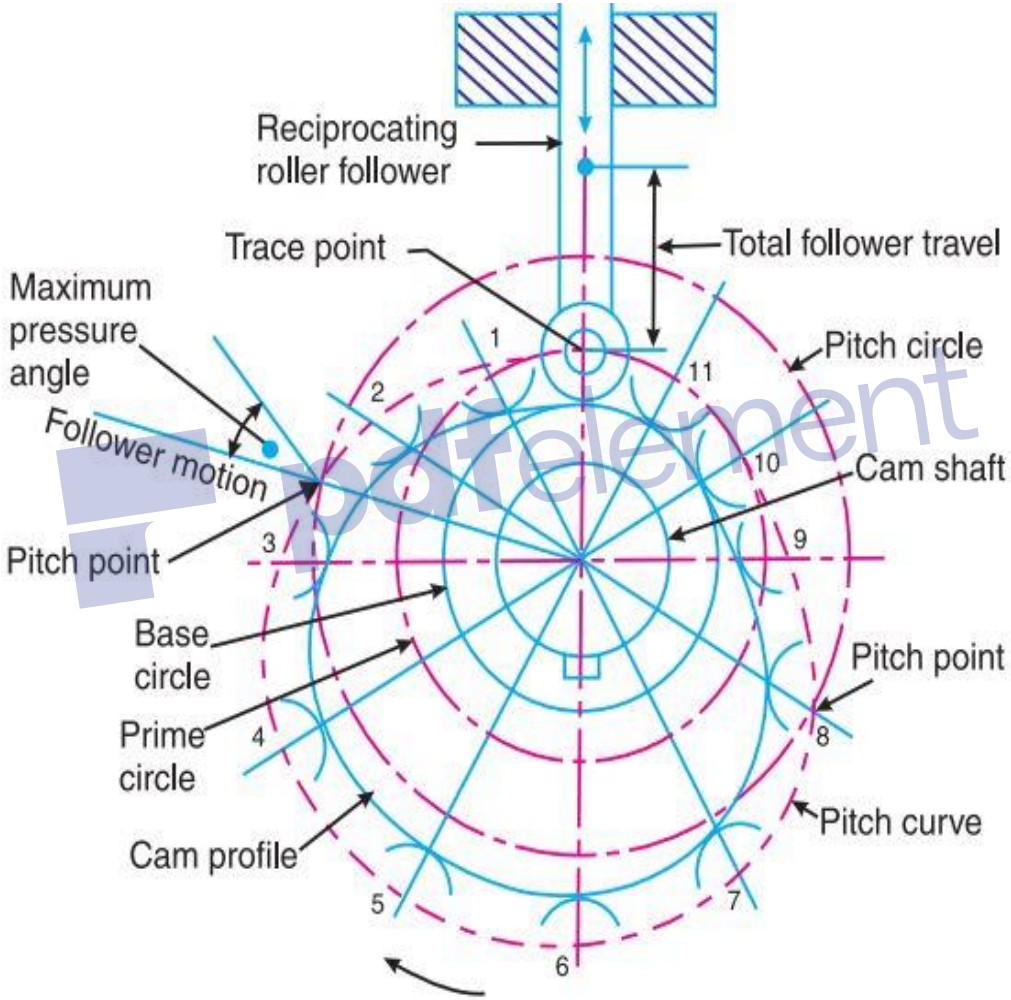

6. Pitch curve.

It is the curve generated by the trace point as the follower moves relative to the cam. For a knife edge follower, the pitch curve and the cam profile are same whereas for a roller follower, they are separated by the radius of the roller.

7. Prime circle.

It is the smallest circle that can be drawn from the centre of the cam and tangent to the pitch curve. For a knife edge and a flat face follower, the prime circle and the base circle are identical. For a roller follower, the prime circle is larger than the base circle by the radius of the roller.

8. Lift or stroke.

It is the maximum travel of the follower from its lowest position to the topmost position.

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Motion of the Follower

1.Uniform velocity,

2. Simple harmonic motion,

3. Uniform acceleration and retardation,

4.Cycloidal motion

Displacement, Velocity and Acceleration Diagrams when the Follower Moves with Uniform Velocity

The displacement, velocity and acceleration diagrams when a knife-edged follower moves with uniform velocity are shown in Fig. (a), (b) and (c) respectively.

The abscissa (base) represents the time (i.e.the number of seconds required for the cam to complete one revolution) or

it may represent the angular displacement of the cam in degrees.

The ordinate represents the displacement, or velocity or acceleration of the follower.

Since the follower moves with uniform velocity during its rise and return stroke, therefore the slope of the displacement curves must be constant. In other words, AB1 and C1Dmust be straight lines.

A little consideration will show that the follower remains at rest during part of the cam rotation. The periods during which the follower remains at rest are known as dwell periods,