

## 1.9 CROSSING

Crossing is a device provided at the intersection of two running rails to permit the wheel flanges, moving along one to pass across the other.

### Component Parts of a Crossing

- (i) A vee piece
- (ii) A point rail
- (iii) A splice rail
- (iv) Two check rails
- (v) Two wing rails
- (vi) Heel blocks at throat, nose and heel of crossing
- (vii) Chairs at crossing, at toe and at heel.

### REQUIREMENTS OF IDEAL CROSSING

Crossing assembly should be rigid enough to withstand severe vibrations.

Wing rails and nose of crossing should be able to resist heavy wear due to movement of wheels, hence should be manufactured of special steel (alloy steel).

The nose of crossing should have adequate thickness to take all stresses acting on the crossing.

### TYPES OF CROSSINGS

Crossings can be classified as follows:

#### 1. On the basis of shape of crossing

- (a) Square crossing
- (b) Acute angle or V-crossing or Frog
- (c) Obtuse angle or Diamond crossing

#### 2. On the basis of assembly of crossing

- (a) Ramped crossing

(b) Spring or movable crossing.

### **Square Crossing**

Square crossing is formed when two straight tracks of same or different gauge, cross each other at right angles. This type of crossing should be avoided on main lines because of heavy wear of rails.

### **Acute Angle Crossing**

Acute angle crossing is formed when left hand rail of one track crosses right hand rail of another track at an acute angle or vice versa. This type of crossing consists of a pair of wing rails, a pair of check rails, a point rail and a splice rail. This crossing is widely used. This is also called V-crossing or frog.

### **Obtuse Angle Crossing**

Obtuse angle crossing is formed when left hand rail of one track crosses right hand rail of another track at an obtuse angle or vice versa. This type of crossing consists mainly of two acute angle and two obtuse angle crossings. This is also called Diamond crossing.