

# **Sherpur Polytechnic Institute**

**Transportation Engineering- 2**

**Subject Code: 26473**

**Tech-Civil, Sem-7<sup>th</sup>**

**Presented By**

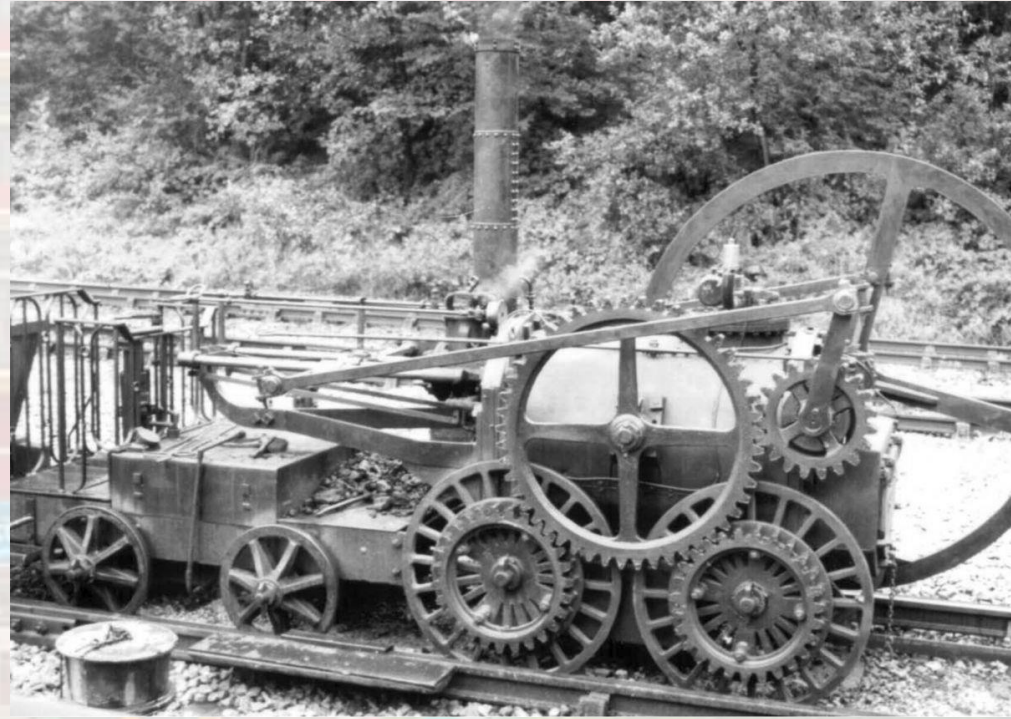
**Junior Instructor Md Rokonzaman**

**Mobile – 01932808564**

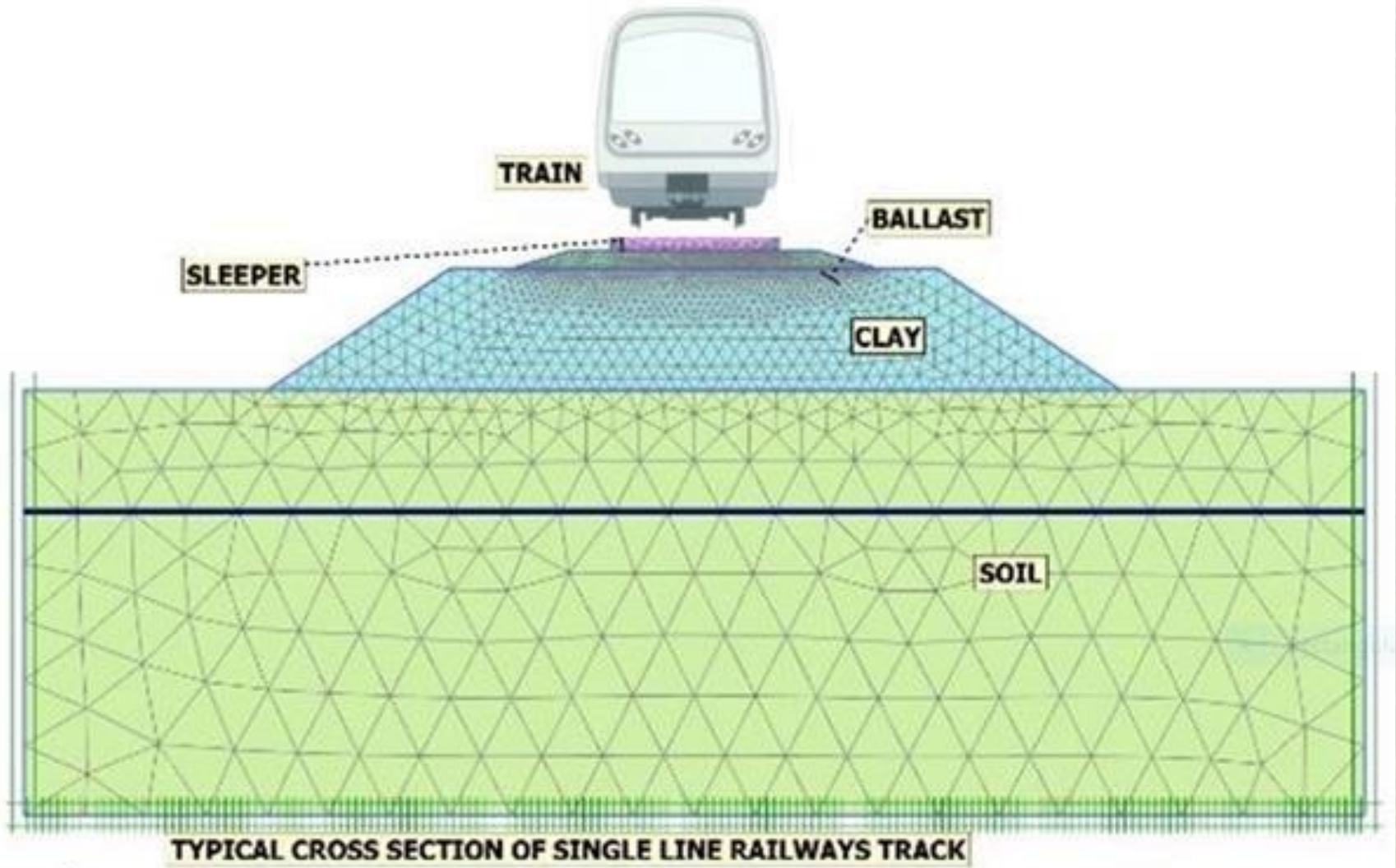
# রেল সড়কের ইতিহাস



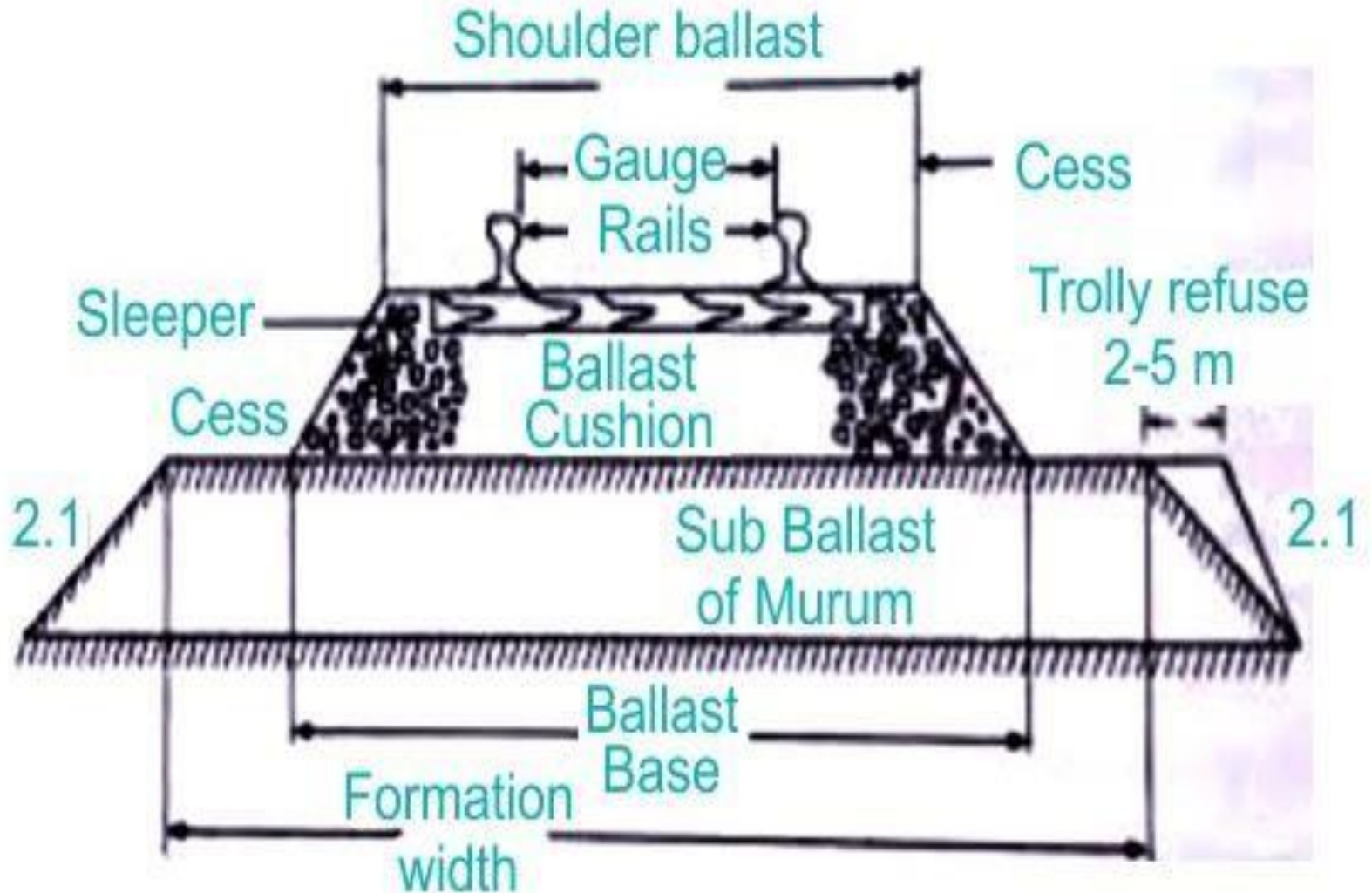
Richard Trevithick, 1884



# রেলওয়ের জরিপ



# Cross Section



# Meter Gauge



# Broad Gauge



# Dual gauge railway line Bangladesh



# Dual Gauge



# Different Types of Rail

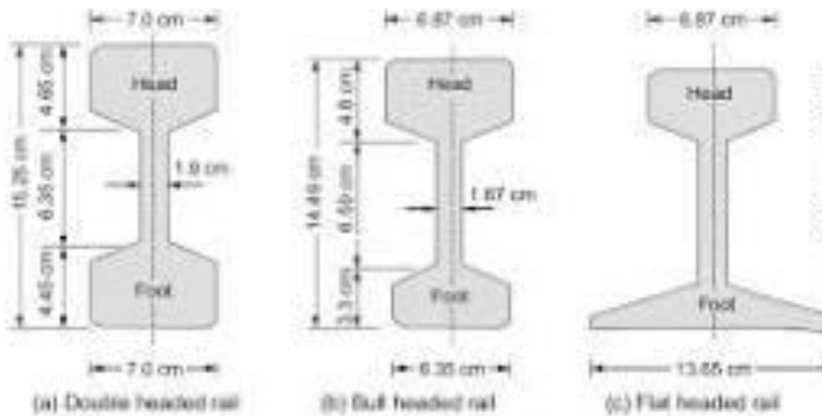
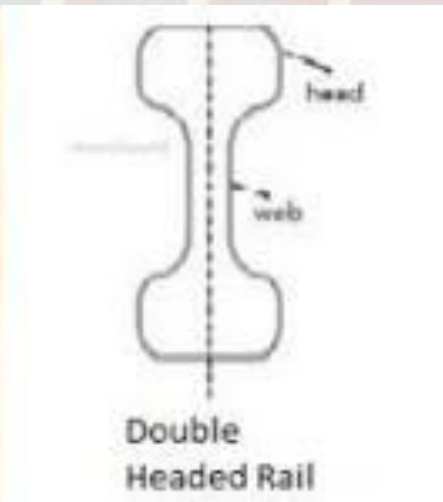
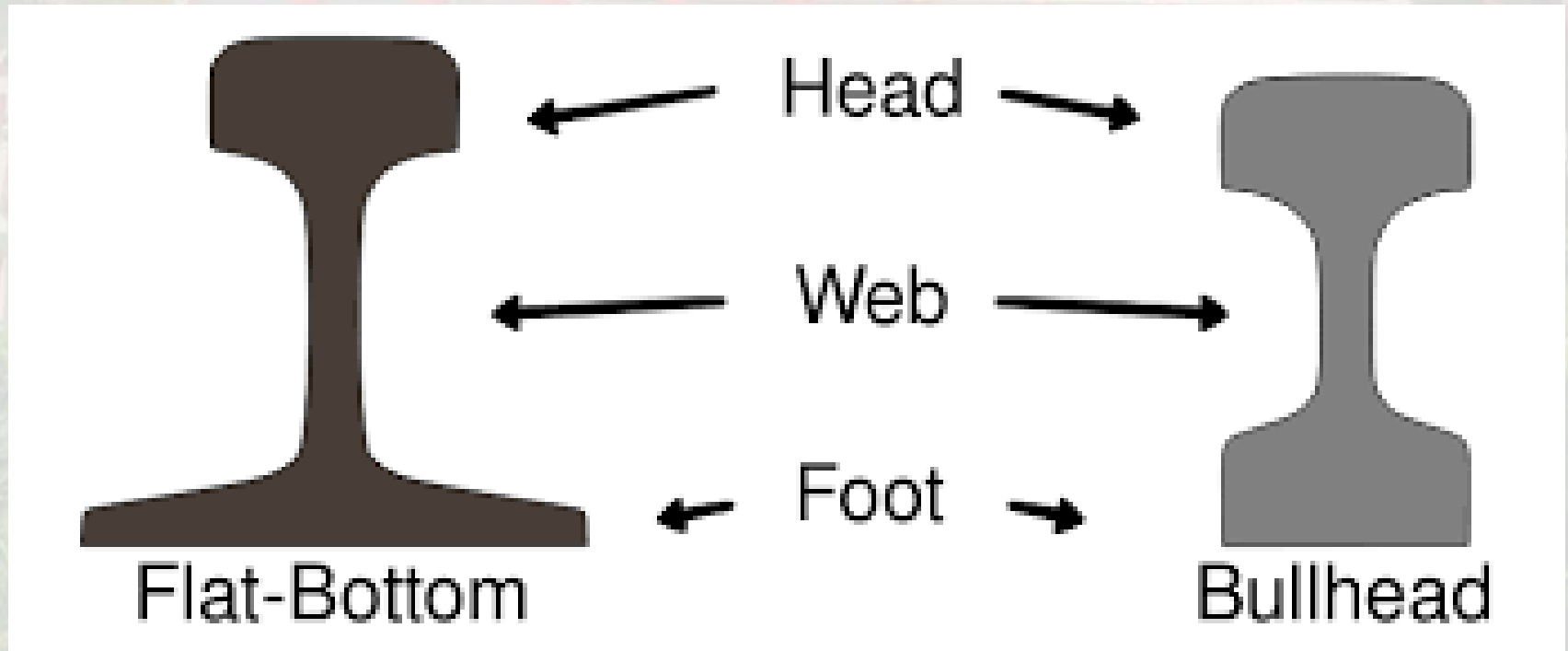


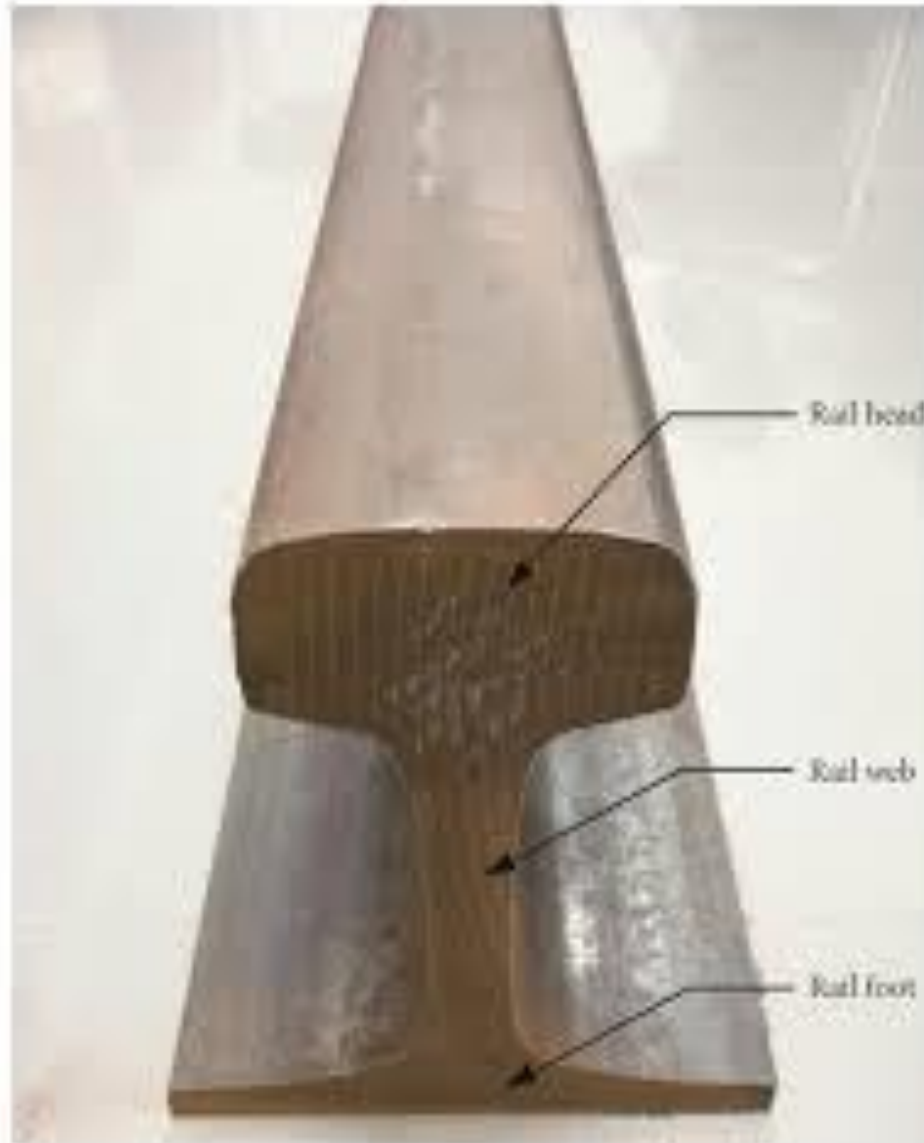
Fig. Types of Rail Sections



# Different Between Flat Footed Rail & Bull Headed Rail



# Flat Footed Rail



# Coning of Wheel

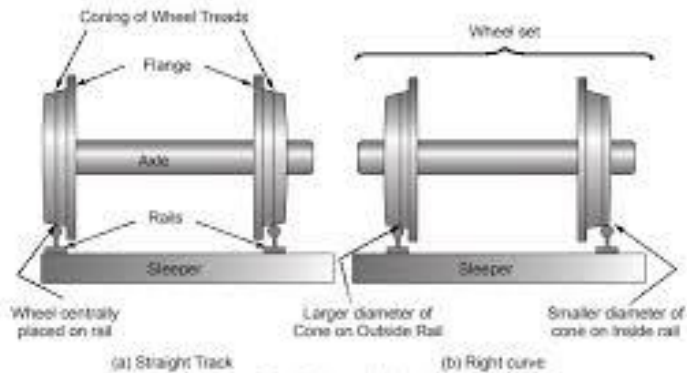
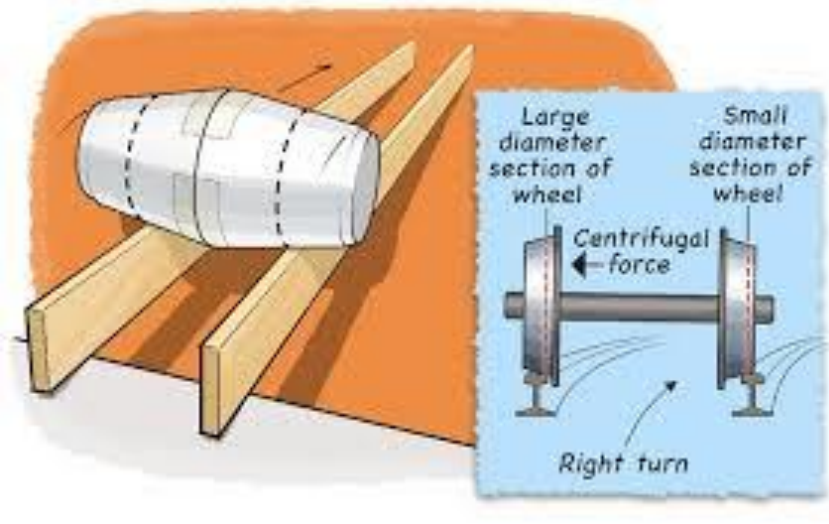


Fig. Coning of Wheels

# Check Rail



alamy

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# Check Rail



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# Buckling of rail



# Hogged Rail

## Hogged Rails

Due to battering action of wheels over the end of the rails, the rails get bent down and get deflected at the ends. These rails are called hogged rails.

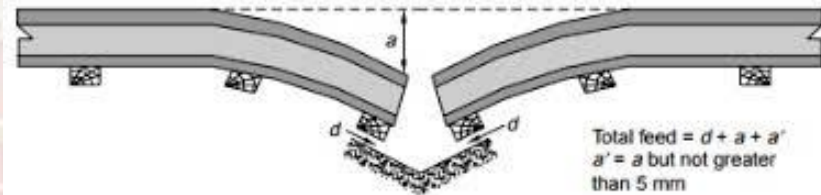
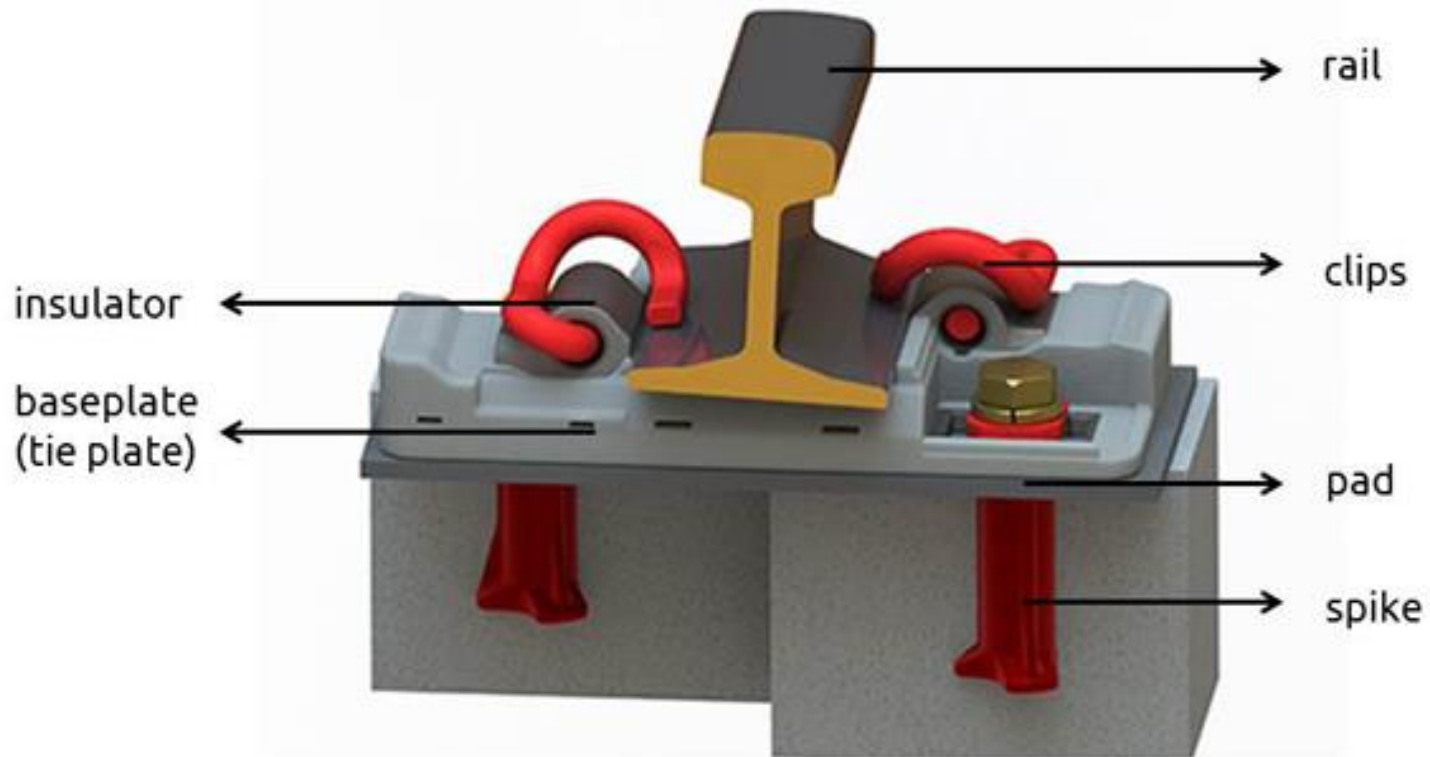


Fig. 20.16 Dehogging of rail ends

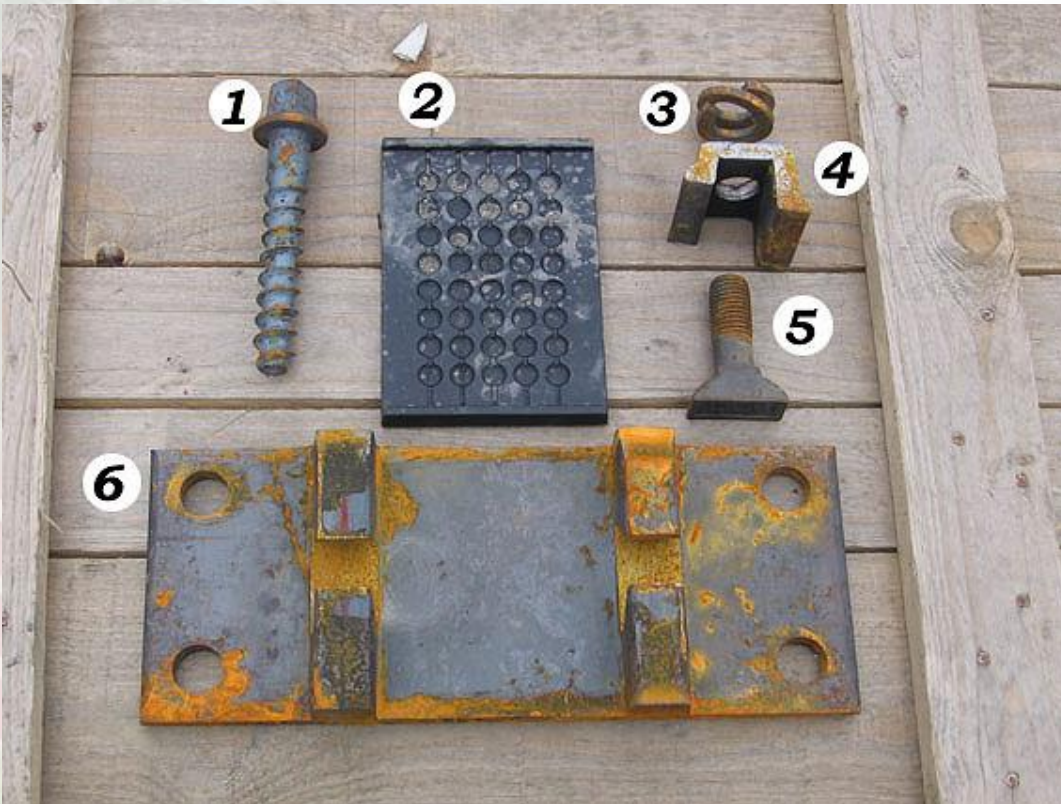
# Rail Fastening



# Rail Fastening



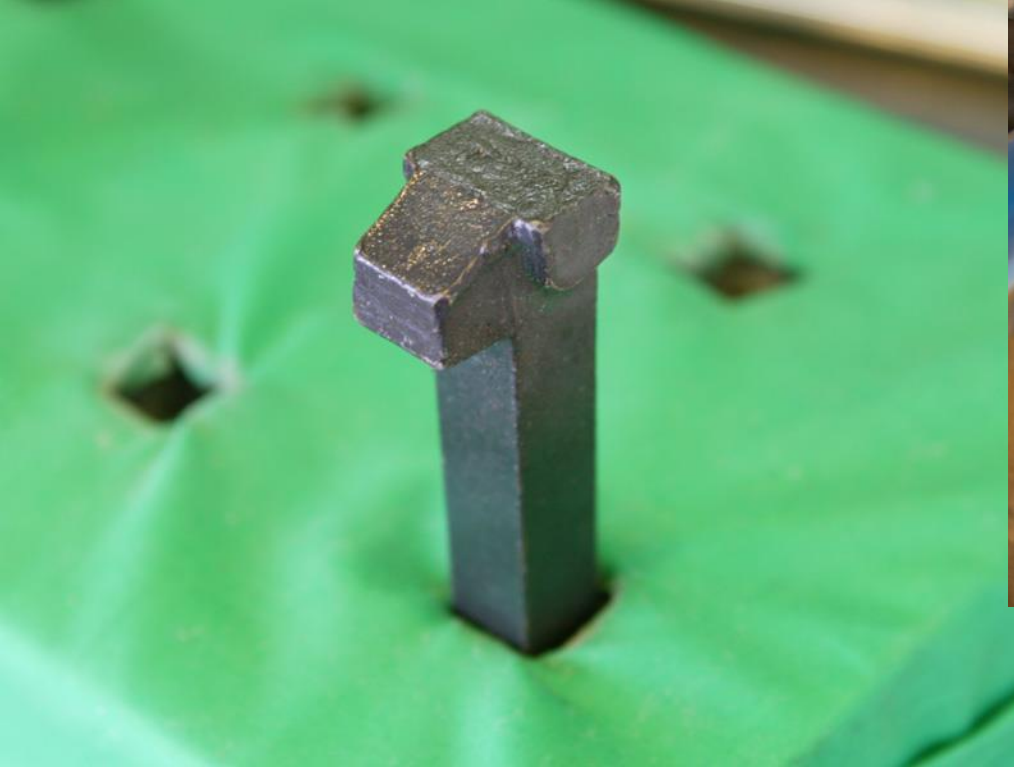
# Rail Fastening



# Rail Fastening



# Rail Spikes



# Rail Spike



# Screw Spikes



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# Elastic Spike



Spring spikes or elastic rail spikes are used with flat-bottomed rail, baseplates and wooden sleepers. The spring spike holds the rail down and prevents tipping and also secures the baseplate to the sleeper.

# Elastic Spike



# Chair & Keys



The chairs and keys in railway are important steel rail fasteners. Rail key is used in conjunction with the cast iron rail chair, and is often used for double headed rails or bull headed rails. Typical representatives include Panlock keys, spring steel keys, JBBH rail key, etc.

# Railway Sleeper



*Concrete sleeper*



*Steel sleeper*



*Wooden sleeper*

# Wooden Sleeper



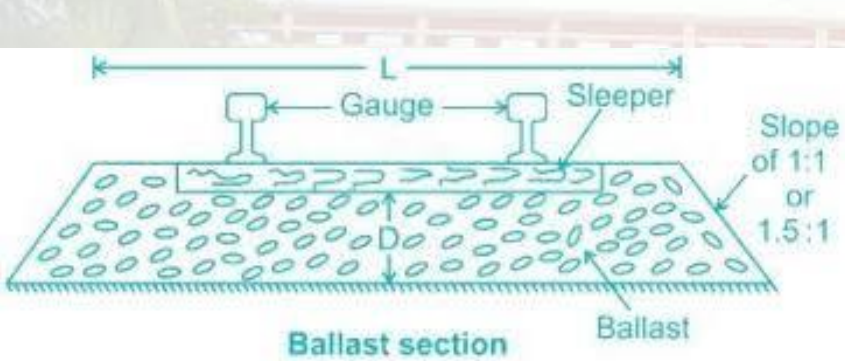
# Concrete Sleeper



# Steel Sleeper



# Depth of Ballast



Gauge	Width of Ballast(L)	Depth Of Ballast(D)
Broad Gauge	3.35 m	2.00 m
Meter Gauge	2.30m	1.50m

# Ballast Section

