

# What is the object? Answer/Fact Sheet

Note: Questions 1,2,6 are 'open-ended question'. Answers for 3, 4, 5 are provided below.

## Object A and B

- cast iron, steel
- railway spikes (also known as a dog spike) - fastener**
- Robert Livingston Stevens is credited with the invention of the railroad spike, first used 1832. A railway spike is a large nail used to secure and fasten the rail to the sleeper. The main function of the spike is to ensure a correct gauge position. Dog spike - named because of the two lugs on either side, the dog spike looks just like the dog's head. Dog spikes come in different sizes.



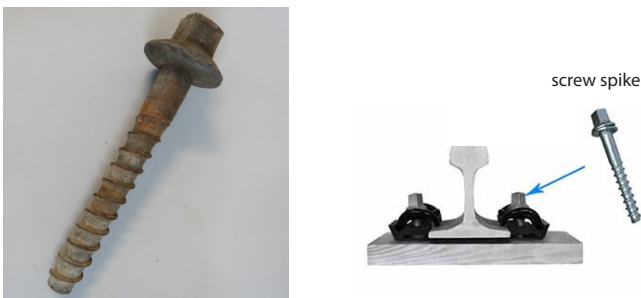
## Object C

- steel
- rail anchor - fastener**
- Rail anchors are made in one-piece construction from spring steel and are designed to fasten the rail against the side of the sleeper to reduce longitudinal movement.



## Object D

- galvanised steel
- screw spike - fastener**
- The chair screw (screw spike) was first introduced in 1860 in France. Screwspikes are medium or large metal screws used to fasten the rail base to the sleeper. Such screws are always fastened into holes, bored into the sleeper. The cost to manufacture screw spikes is higher than the rail spike due to a greater fixing power, and a feature allowing it to be combined with spring washers. The screw spikes have screw threads.



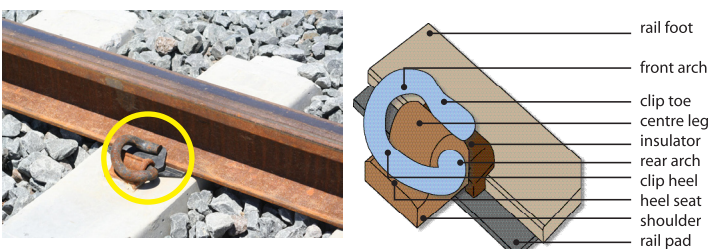
## Object E

- steel
- chisel - tool**
- Iron wedge may be used for splitting timber/sleepers. Wedges are manufactured thick and strong so that they will not bend nor twist, even when driven into the toughest knots and gnarls in wood. Chisels were used to take the nuts off bolts with tongs and sledge hammer. A wedge is an inclined plane that splits things in two. Most wedges consist of two inclined planes.



## Object F

- steel
- Pandrol e-clip - fastener**
- The Pandrol clip was patented in 1957 by the Norwegian railway engineer Per Pande-Rolfsen. The e-clip is manufactured by the British company Pandrol, who manufacture a variety of railway clips including the e-clip. Over 240 railway systems in 91 countries now use Pandrol clips, instead of the traditional dog spike, to attach lengths of railway track to sleepers. A ganger can also use hand tools to install them.



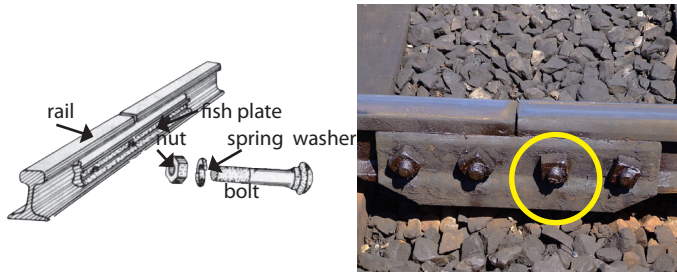
## Object G

- steel
- snatch - tool**
- A priser or snatch, is a small hand tool used for extracting rail dog spikes, usually with a sledge hammer. The foot has a rounded end and it looks like, a pig's trotter - foot. Standard weight: 3.2kg.



## Object H

3. steel
4. **fish bolt or track bolt - fastener**
5. Manufacture date: not known. Track bolts are also called rail bolts, and used to fasten rail joints to link rails. Track bolts come in different sizes and the bolts can be classified into several types, fish bolts or anchor bolts are two main varieties.



## Object I

3. tool steel
4. **auger bit - tool**
5. The bit is inserted at the end of the jigger. A jigger is a long handled 'brace and bit' for boring holes by hand, in wooden sleepers, ready for a dog spike.



## Object J

3. steel
4. **lock spike - fastener**
5. Lock spikes are used for securing baseplates to the sleeper, whilst the other fasteners ie dog spikes are for securing the rail to the sleepers. They are driven in the holes of baseplates where they expand to make a tight friction grip into the sleeper.



## Object K

3. steel
4. **track clip - fastener**
5. Track clips (clamps) secure and fasten the rail to the sleeper their purposes is similiar to dogspikes or screwspikes. As with most fasteners their designs have changed over the years.



## Object L

3. steel
4. **date nail**
5. Not a fastening nor a tool but everyone asks 'What is that nail in the sleeper?' The South Australian Railways, for many years (1922 -1973) used a system of 'date-nails' in their sleepers. Date nails had a large head featuring raised digits to indicate the year the sleeper was installed.



## Objects M beater, N spiking hammer, O wrench or spanner

3. timber and steel
- 4, 5. **beater - tool**: like a pick, one end with one or two sharp points for digging, the other end a rectangular flat face for 'beating' stones under sleepers.
- spiking hammer - tool**: a long handled, light, thin head hammer for driving in dog spikes.
- wrench or spanner - tool**: long handed tool for tightening track bolts.

