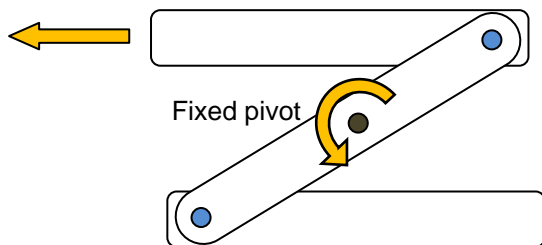
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	Different kind of mechanisms	Cours	<u>Note :</u>
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Mechanisms : Glossary

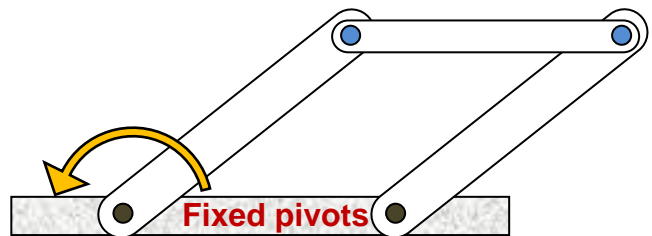
- LINEAR MOTION : motion in a straight line eg. the motion of a train.
- ROTARY MOTION : circular motion eg. the motion of a bicycle wheel.
- RECIPROCATING MOTION : repeating backwards and forwards motion eg. the motion of a piston in a car engine.
- OSCILLATING MOTION : repeating forwards and backwards circular motion eg. the motion of a clock pendulum.
- EQUILIBRIUM : a state of balance when both sides are equal.
- FULCRUM : pivot, a point about which things rotate.
- LINKAGES : two or more levers connected to produce a desired motion.

Linkages

A linkage is a mechanism made by connecting together levers. To connect the levers together you can use any type of fastening which allows free movement, for example screws, pins, paper fasteners, pop rivets etc. The linkage can be made to change the direction of a force or make two or more things move at the same time.

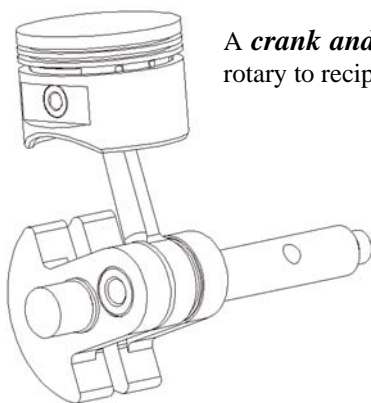


Reverse motion linkage



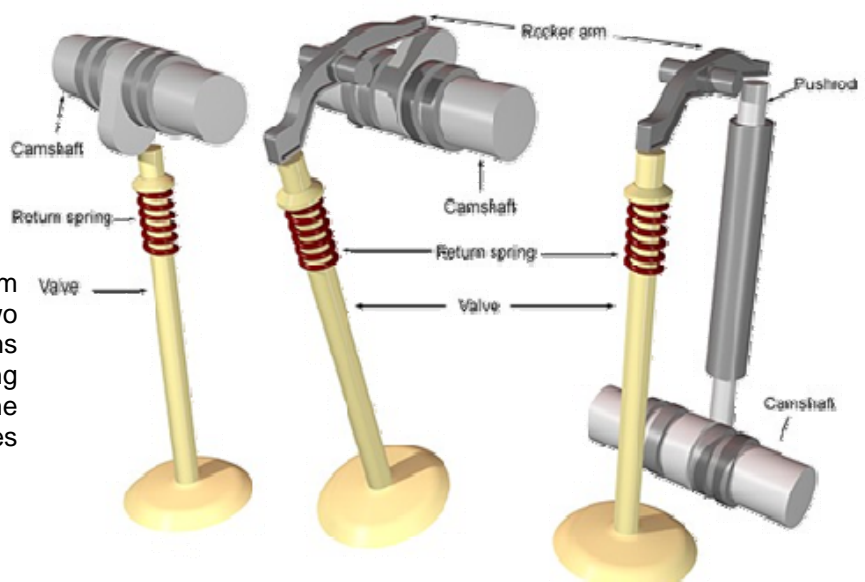
Parallel motion linkage

Rotary/Linear motion




A **crank and slider** mechanism changes rotary to reciprocal motion or vice versa.

Cams and followers

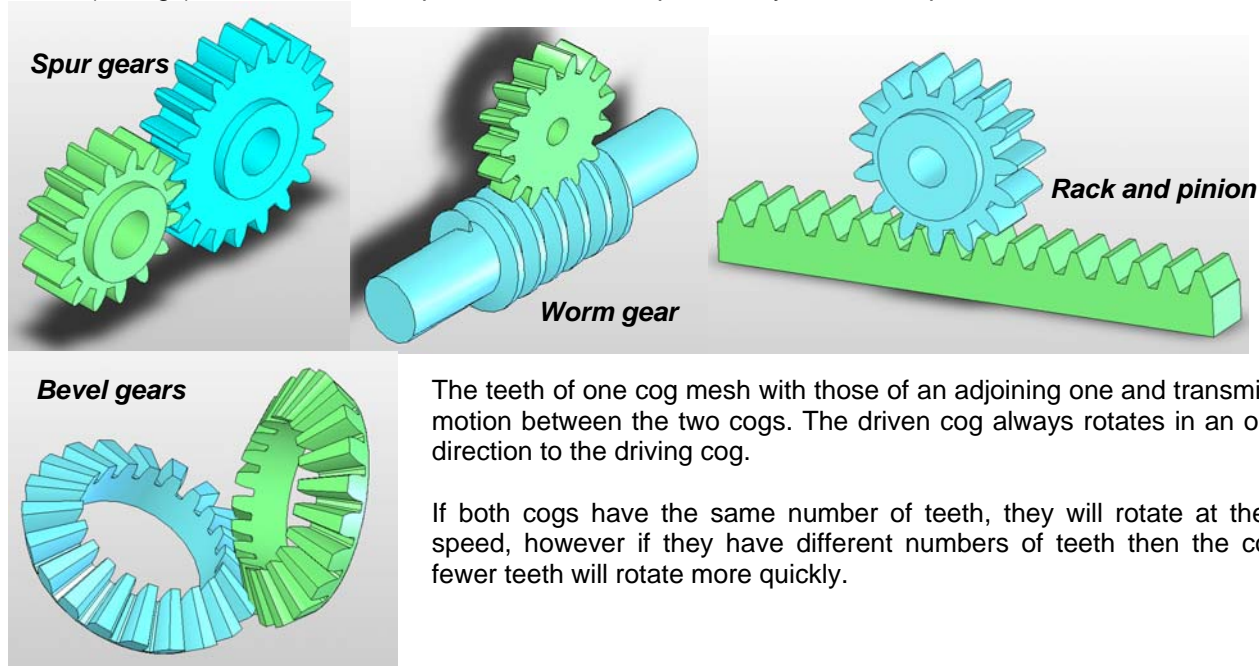


There are several different types of cam but most of these can be placed into two groups - rotary and linear. Rotary cams change rotary motion into reciprocating (backwards and forwards) motion. As the cam rotates, the follower moves accordingly.

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Gears, chain drive and pulley

Gears (or cogs) are wheels whose perimeter is made up of evenly sized and spaced teeth.



The teeth of one cog mesh with those of an adjoining one and transmit rotary motion between the two cogs. The driven cog always rotates in an opposite direction to the driving cog.

If both cogs have the same number of teeth, they will rotate at the same speed, however if they have different numbers of teeth then the cog with fewer teeth will rotate more quickly.

Pulleys are used to transfer rotating motion, via a belt, from one shaft to another.

If both pulleys are the same diameter, then they will both rotate at the same speed.

If one pulley is larger than another then mechanical advantage and velocity ratio are introduced. A large drive pulley will cause a smaller driven pulley to rotate faster.

The chain drive is functioning on the same principles.

