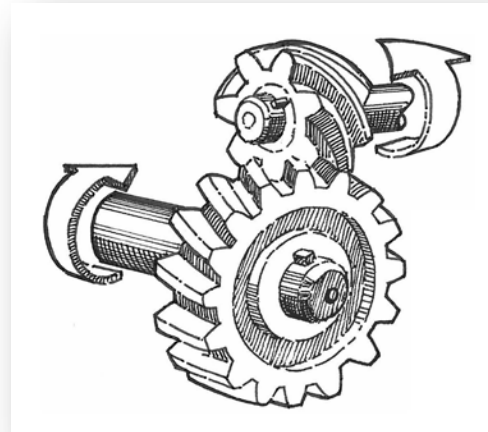
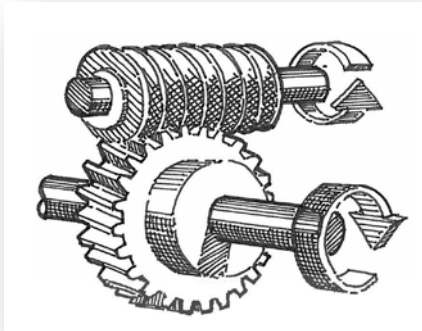


Worm Drive Systems

Another way of making large speed reductions is to use a worm gear and worm wheel. The worm which looks rather like a screw thread is fixed to the driver shaft. It meshes with the worm wheel which is fixed to the driven shaft. The driven shaft runs at 90 degrees to the driver shaft.



When considering the speed changes in most worm gear systems, you can think of the worm as if it were a spur gear with one tooth. It is a single tooth wrapped around a cylinder. 1 turn of worm gives a rotation of only one tooth by the driven worm wheel. *(Note that worm gears can only be used to REDUCE speeds and not increase speeds. If you try and rotate the driven gear it will jam against the worm).*



A **worm and gear wheel** are used to tighten tennis nets. A small force used to turn the crank handle produces a large force to stretch the net.